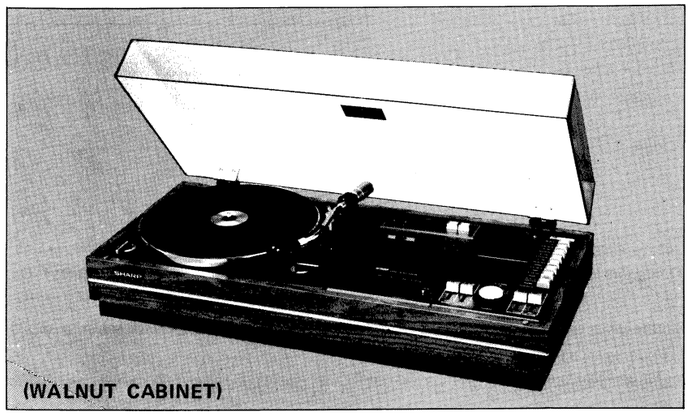
SHARP Service Manual

SG-315H



Receiver with
Cassette Tape-Deck
and Record Player

MODEL SG-315H

"In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified be used"

SPECIFICATIONS

GENERAL

Circuit:	LW/MW/SW/FM (FM-STEREO) 4-band stereo receiver with AFC, with 4-track cassette tape recorder and with semi-automatic record player
Semiconductors:	1-IC (Integrated Circuit) 37-transistor 1-FET 37-diode 3-LED
Power source:	110/220/240 V, 50 Hz
Dimensions:	755 mm (Width) x 191 mm (Height) x 340 mm (Depth)
Weight:	13 kg

AUDIO SECTION

Music power output:	2 x 23W/4 ohms Both channels drive
Continuous power output:	2 x 15W/4 ohms Both channels drive
Frequency response:	50 Hz – 35,000 Hz (–3 dB)
Output impedance:	4 ohms
Input sensitivity and input impedance:	MIC: 1 mV, 50K ohms AUX: 300 mV, 50K ohms

FM SECTION

Frequency coverage:	87.6 ~ 108 MHz
Quieting sensitivity:	2 μV (40 kHz deviation, S/N
Harmonic distortion:	1%
Stereo separation:	30 dB

AM SECTION

Frequency coverage:	LW: 150 ~ 285 kHz MW: 520 ~ 1620 kHz SW: 5.95 ~ 18 MHz
Maximum sensitivity:	LW: 250 μV/m MW: 150 μV/m SW: 30 μV

RECORD PLAYER SECTION

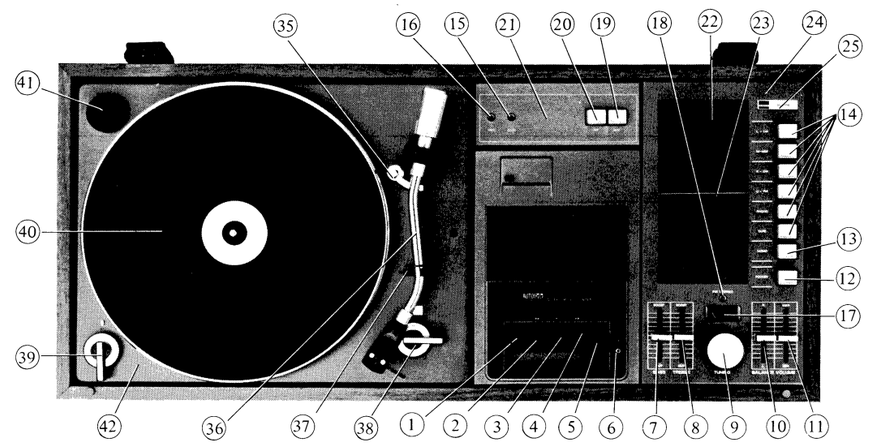
Type:	Rim driven, semi-automatic
Speed:	33-1/3, 45 r.p.m.
Tonearm:	Static balancing
Cartridge:	Ceramic with Sapphire stylus
Motor:	AC110 V, 50 Hz 2-pole induction

TAPE RECORDER SECTION

Type:	4-track 2-channel stereo cassette tape recorder
Tape:	Philips standard compact cassette tape
Tape speed:	4.8 cm/sec
Wow & flutter:	0.35% (DIN standard)
Frequency response:	50 Hz ~ 15 kHz (CrO_2 tape) 50 Hz ~ 10 kHz (Normal tape)

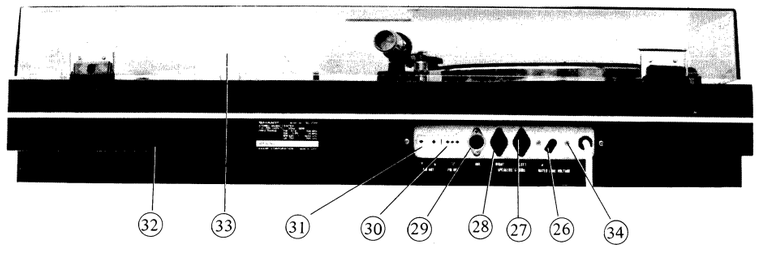
SHARP CORPORATION OSAKA, JAPAN

LAYOUT OF CONTROLS



① Record Key (JKNBR0100AFSB)
② Rewind Key (JKNBR0100AFSB)
③ Play Key (JKNBR0100AFSB)
④ Fast Forward Key (JKNBR0100AFSB)
⑤ Stop/Eject Key (JKNBR0100AFSB)
⑥ Pause Switch (QSW-S0153AFZZ)
⑦ Bass Control Knob (JKNBP0068AFSA)
⑧ Treble Control Knob (JKNBP0068AFSA)
⑨ Tuning Knob (JKNBN0297AFSA)
⑩ Balance Control Knob (JKNBP0068AFSA)
⑪ Volume Control Knob (JKNBP0068AFSA)
⑫ Power Switch Knob (JKNBM0224AFSB)
⑬ Stereo-Mono Selector Knob (JKNBM0224AFSB)
⑭ Function Selector Knobs (JKNBM0224AFSB)
⑮ LED, CrO_2 Indicator (VHPGL30PG//-1)
⑯ LED, Recording Indicator (VHPGL30PR//-1)
⑰ Tuning Meter, ME501 (RMTRE0053AFZZ)
⑱ LED, FM Stereo Indicator (VHPGL30PR//-1)
⑲ Auxiliary Input Switch Knob (JKNBM0224AFSB)
⑳ R.I.F. (Radio Interference Filter) Switch Knob (JKNBM0224AFSB)
㉑ R.I.F./AUX Switch Panel (HPNLC1221AFSA)
㉒ Tuning Dial (HDALP0326AFSA)
㉓ Dial Pointer (HSSND0206AFSB)
㉔ Panel for Volume/Tuning/Function Control (HPNLC1220AFSA)
㉕ Indication Metal for Model No. (HINDM1113AFSA)
㉟ Tonearm Lifter (891199)
㊱ Tonearm (850678)
㊲ Tonearm Rest (890680)
㊳ Operation Lever (891195)
㊴ Speed Selector (891196)
㊵ Turntable Platter (870365)
㊶ Adaptor, EP (890876)
㊷ Player Board (850710)

LAYOUT OF REAR PARTS



㉖ Voltage Selector Socket, SO506 (QSOCE0410AGZZ)
㉗ Left Speaker Socket, SO504 (QSOCD0201SEZZ)
㉘ Right Speaker Socket, SO505 (QSOCD0201SEZZ)
㉙ Auxiliary Input Socket, SO503 (QSOCD0501SEZZ)
㉚ FM Antenna Socket, SO501 (QSOCJ0204SEZZ)
㉛ AM Antenna Socket, SO502(QSOCJ0205SEZZ)
㉜ Cabinet (GCAB-5085AFSA-Walnut; GCAB-5085AFSB -Black)
㉝ Dust Cover (GCOVA1057AFSA)
㉞ Bracket for Rear Terminal (LANGQ0441AFZZ)

CABINET DISASSEMBLY

1. Remove the turntable by pulling upward.
2. Lift up the player board at the lefthand and slide the player board to the left.
3. While lifting up the player board at this side, disconnect the pin plugs and phono motor connector.
4. Then, remove the player.
5. Remove four (4) slide volume knobs and tuning knob.
6. Remove the cabinet bottom retaining screw.
7. Remove the screw retaining the control panel.
8. Lift up the control panel at this side and pull out the panel.
9. Remove the screw retaining the switch panel and take out the switch panel.
10. Remove the tape deck panel by removing four (4) retaining screws.
11. Remove two (2) screws retaining the rear terminal bracket, four (4) wood screws retaining the chassis and two (2) wood screws retaining the power transformer bracket.

DIAL CORD STRINGING

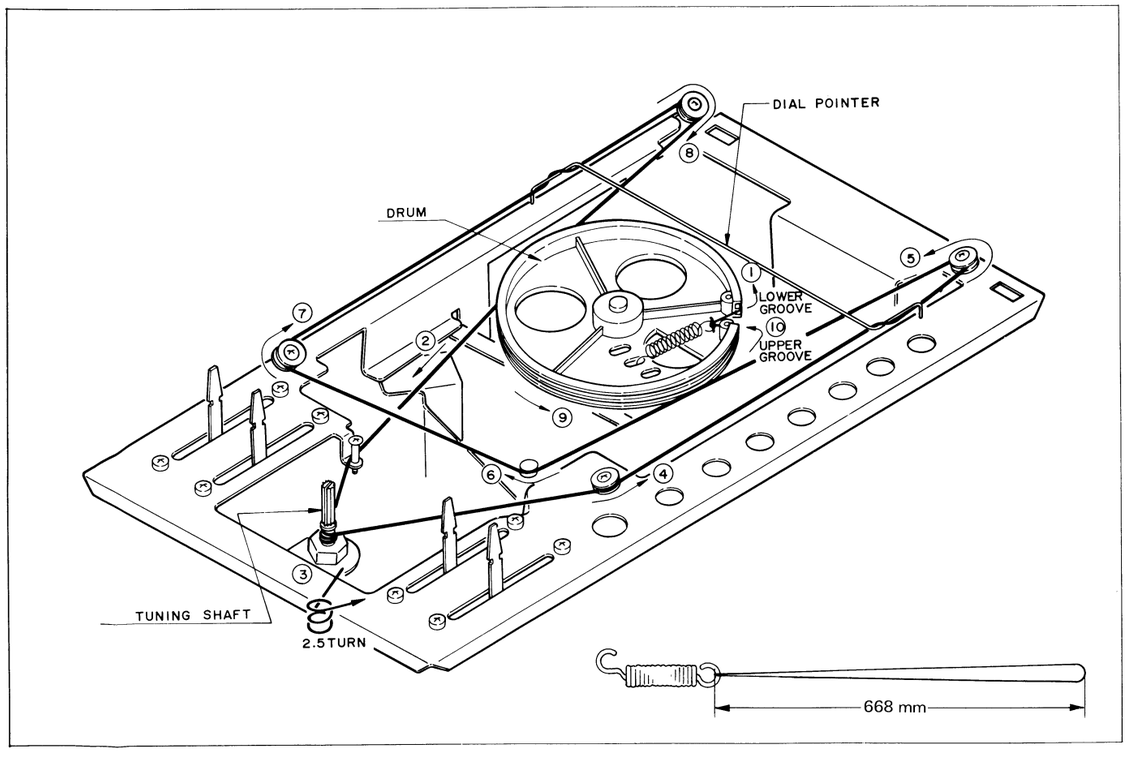


Figure 1

CHECK AND ADJUSTMENT

This unit operates on AC 110/220/240V, 50Hz. Check that the power supply is exactly AC 110/220/240V before measurement.

■ **TAKE-UP TORQUE IN FAST FORWARD MODE** (Refer to Figure 2)
1. Place a test reel on a take-up reel spindle.
2. Put a tension gauge on the test reel.
3. Set the unit in fast forward mode by depressing the FAST FORWARD button.
4. Turn the gauge slowly to counterclockwise direction and read the gauge.
5. The reading on the tension gauge should be 60 – 90gr.

■ **REWIND TORQUE IN REWIND MODE** (Refer to Figure 2)
1. Place a test reel on a supply reel spindle.
2. Put a tension gauge on the test reel.
3. Set the unit in rewind mode.
4. Turn the gauge slowly to clockwise direction and read the gauge.
5. The reading on the tension gauge should be 55 – 90gr.

■ **TAKE-UP TORQUE IN PLAY MODE** (Refer to Figure 2)
1. Do the same steps 1 and 2 in "TAKE-UP TORQUE IN FAST FORWARD MODE".
2. Set the unit in playback mode by depressing the PLAY button.
3. Check the take-up torque.
4. The reading on the tension gauge should be 30 – 60gr.

■ **PINCH ROLLER PRESSURE** (Refer to Figure 3)
1. Set the unit in playback mode.
2. Hook the tension gauge at the pinch roller shaft.
3. Read the gauge when the pinch roller separates from the capstan about 0.5mm distance.
4. The pinch roller pressure should be 400 – 540gr.

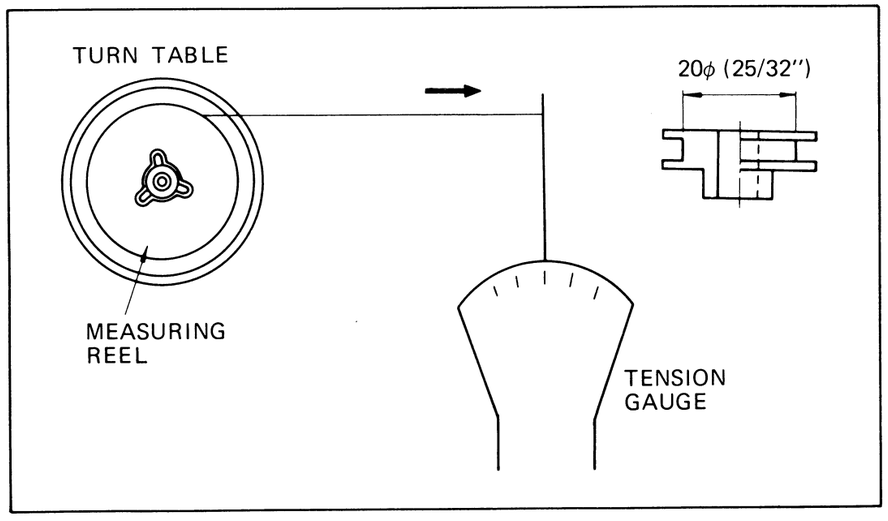


Figure 2

■ **FLYWHEEL THRUST CLEARANCE ADJUSTMENT** (Refer to Figure 4)

Adjust the thrust gap about 0.1mm to 0.3mm by adjusting screw on the flywheel bracket. After finished adjustment, apply a drop of lacquer on the screw.

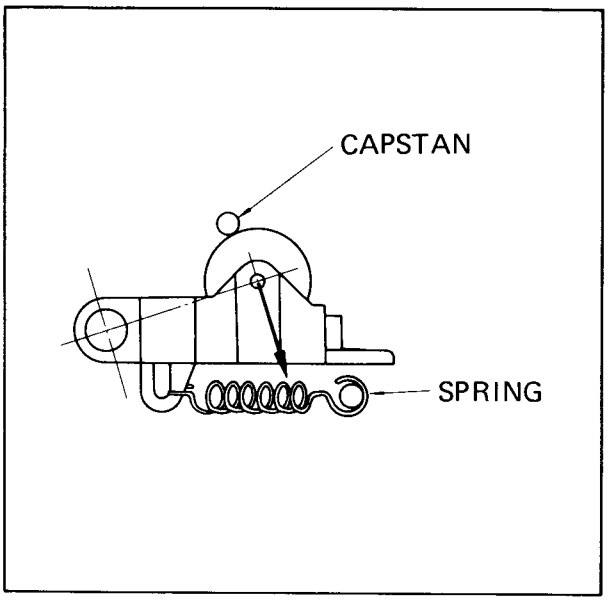


Figure 3

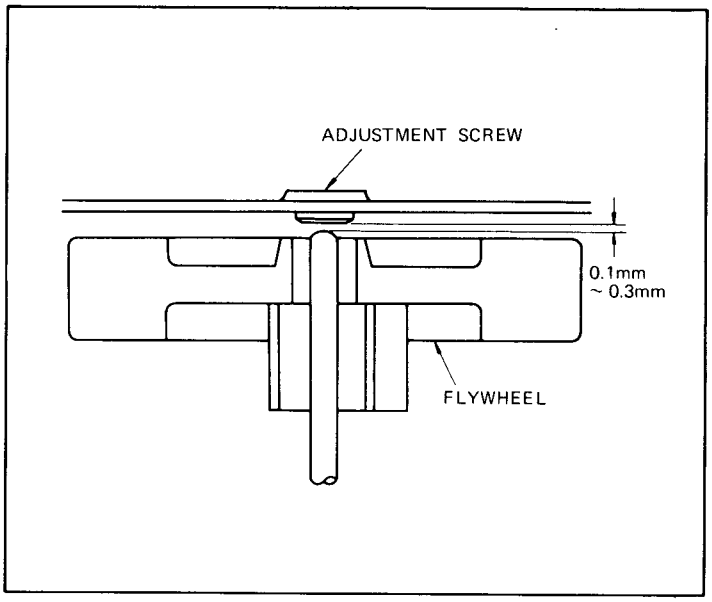


Figure 4

■ **TAPE SPEED CHECK** (Refer to Figure 5)

1. Connect an 4 ohm dummy load resistor to the speaker output socket (SO504 or SO505).
2. Connect a frequency counter across the 4 ohm resistor.
3. Place the unit in a horizontal position and playback the test tape (TEAC MTT-111, 250 PWB/mm –10 dB, 3 kHz).
4. Ensure that the frequency counter indicates within 3 kHz ±75 Hz (2925 ~ 3075 Hz)

If the tape speed is not within this range, clean the belt, flywheel, capstan, pinch roller and the other running parts. Check the torque of take-up turntable and pressure of the pinch roller. Neverthless good results can not be obtained, replace the motor.

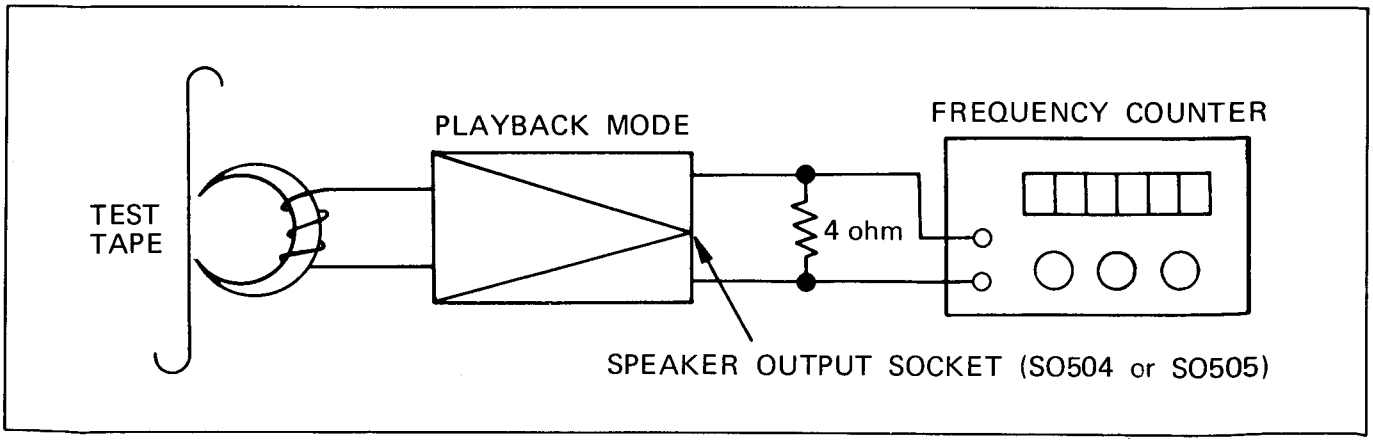


Figure 5

TAPE DECK CIRCUIT ADJUSTMENT

■ RECORD AMPLIFIER BIAS OSCILLATOR ADJUSTMENT (Refer to Figure 6)

1. As shown in figure 6, connect the VTVM across the resistors of 100 ohm (R809, R810).
2. Set the unit in "RECORD" mode and RIF switch in upper position.
3. Then, connect the frequency counter to the output terminal of VTVM and adjust the oscillator coil (L805) so that the bias oscillation frequency becomes 53.5 kHz.
4. Adjust the variable resistors (VR801, VR802) so that the VTVM readings becomes 60 mV.

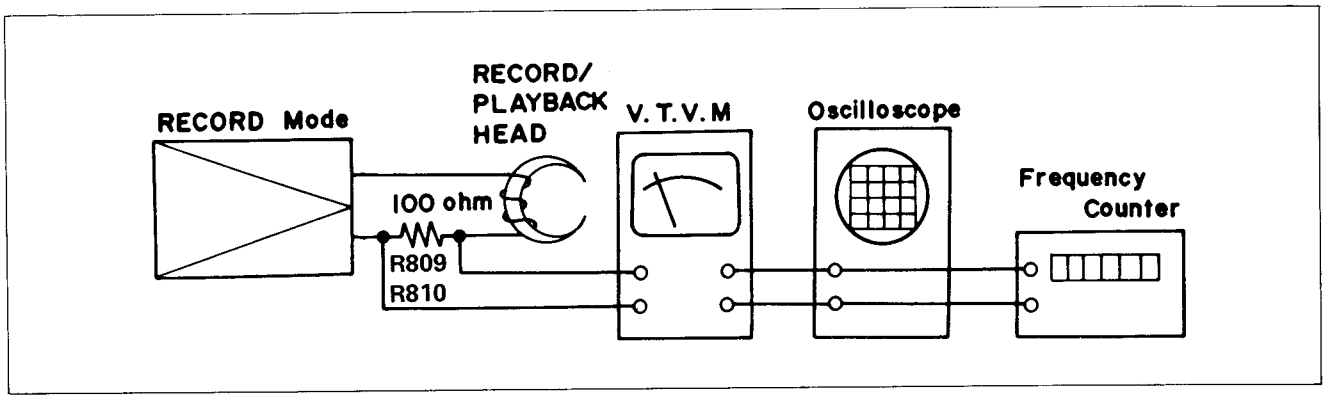


Figure 6

■ RECORD/PLAYBACK HEAD AZIMUTH ADJUSTMENT (Refer to Figure 7).

1. Connect 4 ohm dummy resistor to the speaker output terminals (SO504 or SO505) and connect the VTVM across the resistor.
2. Playback the test tape (TEAC MTT-114; 250 PWB/mm, −10 dB, 10 kHz).
3. Rotate the adjusting screw so that the playback output voltage becomes maximum in both channels.

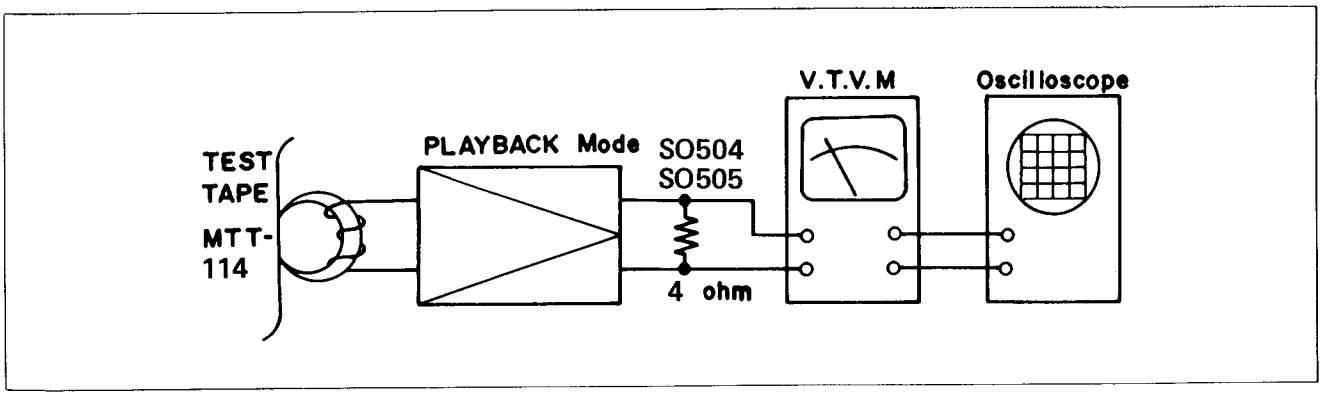


Figure 7

■ ALC CHARACTERISTIC ADJUSTMENT (Refer to Figure 8)

1. Connect a 33MFD electrolytic capacitor across both terminals of the erase head to stop the bias oscillation.
2. Set the unit in record mode.
3. As shown in figure 8, connect the VTVM across 100 ohm resistors (R809, R810).
4. Rotate the variable resistor (VR803) to its mechanical center position.
5. Input 1 kHz, −70 dB and −40 dB signals to microphone jacks (J502, J503).
6. Adjust the variable resistor so that the difference of the reading on VTVM for −70 dB and −40 dB becomes 4 ± 3 dB at each channel and the difference for left and right channel becomes less than 3 dB.

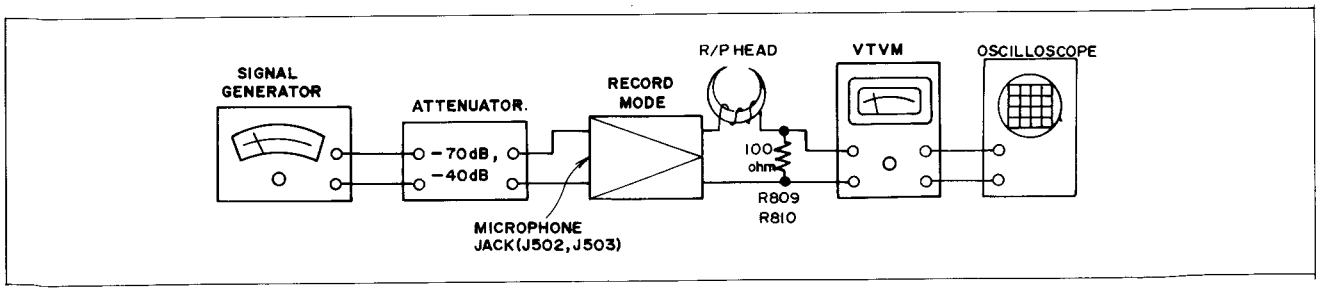


Figure 8

ALIGNMENT INSTRUCTIONS (TUNER)

Alignment is an exacting procedure and should be undertaken only when necessary.
If alignment of AM and FM is required, either section may be done first.
The FM stereo section, however, should be done only if the FM monaural section is properly adjusted.
Notes: Don't use a metallic screw driver.

REQUIRED EQUIPMENT:

1. Signal generator with a frequency range of 140 kHz to 18.5 MHz: AM
2. Signal generator with a frequency range of 87.4 MHz to 109 MHz: FM
3. Signal generator with a frequency output of 10.7 MHz±0.5 MHz: FM
4. Vacuum tube voltmeter (AC-VTVM)
5. Sweep signal generator with a sweep range of at least 500 kHz and center frequency of 10.7 MHz with at least a 10.7 MHz marker. (Ext. Marker may be used.)
6. Oscilloscope with a wide range amplifier of approximately 100 kHz
7. Test loops, a coil of any size wire, one turn or more.
8. FM stereo signal generator.
9. Audio signal generator with a frequency of 20 Hz to 100 KHz.

Notes: Allow the set at least five minutes to warm up before attempting alignment. During alignment keep the signal generator output at the lowest level that will maintain a usable output from the set, except for FM stereo signal generator. Take much care, lest the grounding of FM sweep signal generator input should make multipaths which made FM IF alignment incorrect. To avoid this the grounding lead may be connected through 0.01–0.04 MFD capacitor to the tuner chassis when sweep generator is connected to the tuner section.

Generator modulation(AM) 30%, 400Hz
Generator modulation(FM) . . . . . 22.5kHz, 400 Hz
Generator modulation(FM stereo) . . . . . CH.L. or CH.R. 11.25kHz, 1000Hz Mod.

THE INSTRUCTION OF FREQUENCY ADJUSTMENT

In order to comply with FTZ rule Nr. 358 S757, please fix the low end of dial frequency (87.5 MHz) and the high end of dial frequency (107.9 MHz) on FM band, by adjusting oscillation coil (L104) and oscillation trimmer (TC3), respectively, as illustrated in Figure 9.

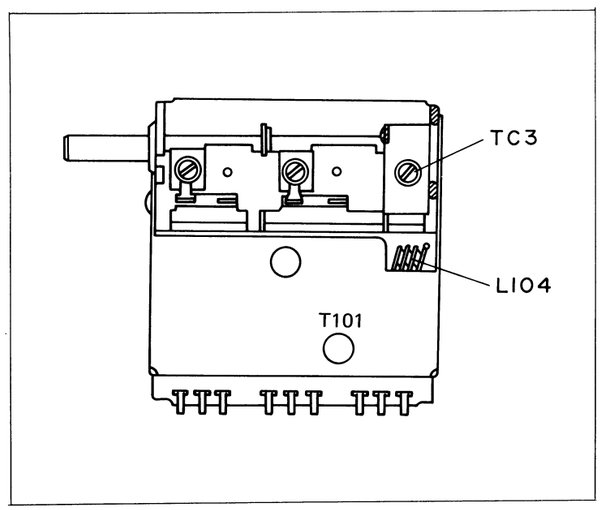


Figure 9

ALIGNMENT PROCEDURE (TUNER)

AM ALIGNMENT

PROCEDURE NUMBER		SIGNAL GENERATOR CONNECTION	SIGNAL GENERATOR FREQUENCY	DIAL POINTER SETTING	FUNCTION SETTING	METER CONNECTION	ADJUSTMENT	REMARKS
1 (IF)		Thru 0.01 μF to Q201 base as small as possible	455 kHz (Sweep)	High end of Dial	MW	Oscilloscope connected to TP201	T204 T205 T206	Adjust for maximum output. Repeat 2 or 3 times
2	Band Coverage	Radiated Signal as small as possible	145 kHz	Low end of Dial	LW	VTVM connected to TP201.	Oscillator coil L205	Same as above
3		Radiated Signal as small as possible	295 kHz	High end of Dial	LW	Same as above	Oscillator Trimmer TC9	Same as above
4	Tracking	Radiated Signal as small as possible	280 kHz	280 kHz	LW	Same as above	Antenna Trimmer TC6	Same as above
5		Radiated Signal as small as possible	160 kHz	160 kHz	LW	Same as above	Antenna coil L202 (Bobbin of LW)	Same as above
6	Band Coverage	Radiated Signal as small as possible	510 kHz Modulated	Low end of Dial	MW	Same as above	Oscillator coil L204	Same as above
7		Radiated Signal as small as possible	1650 kHz Modulated	High end of Dial	MW	Same as above	Oscillator Trimmer TC8	Same as above
8	Tracking	Radiated Signal as small as possible	1400 kHz	1400 kHz	MW	Same as above	Antenna Trimmer TC5	Same as above
9		Radiated Signal as small as possible	600 kHz	600 kHz	MW	Same as above	Antenna coil L202 (Bobbin of MW)	Same as above
10	Band Coverage	Thru 10PF to AM EXT ANT. as small as possible	5.9 MHz	Low end of Dial	SW	Same as above	Oscillator coil L203	Same as above
11		Thru 10PF to AM EXT ANT. as small as possible	18.3 MHz	High end of Dial.	SW	Same as above	Oscillator Trimmer TC7	Same as above
12	Tracking	Thru 10PF to AM EXT ANT. as small as possible	16 MHz	16 MHz	SW	Same as above	Antenna Trimmer TC4	Same as above
13		Thru 10PF to AM EXT ANT. as small as possible	6.5 MHz	6.5 MHz	SW	Same as above	Antenna coil L201	Same as above

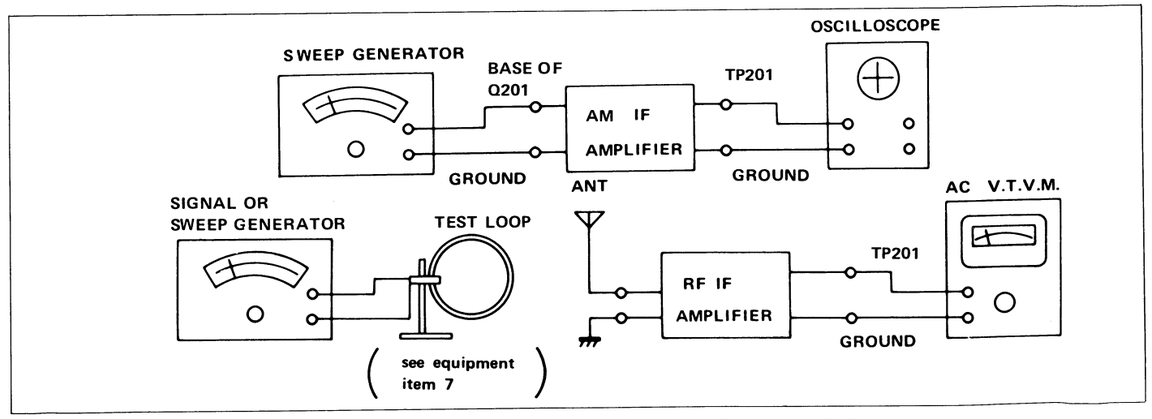


Figure 10 AM ALIGNMENT EQUIPMENT CONNECTIONS

FM IF ALIGNMENT

PROCEDURE NUMBER	SIGNAL GENERATOR CONNECTION	SIGNAL GENERATOR FREQUENCY	DIAL POINTER SETTING	FUNCTION SETTING	SCOPE CONNECTION	ADJUSTMENT	REMARKS
1	Detune the secondary core of T203 completely						
2	Thru 10PFD to base of Q203	10.7 MHz ±300 kHz	High end of Dial	FM	TP203	T201 T202 the primary core of T203	Set curve at maximum as shown in the Figure A Repeat 2 or 3 times
3	Thru 10PFD to base of Q203	10.7 MHz ±400 kHz	High end of Dial	FM	TP203	the secondary core of T203	Adjust "S" curve at maximum. Adjust 10.7 MHz at the center of "S" curve.
4	Repeat adjustment to obtain "S" curve as shown in Figure.						

■ PRECAUTIONS ON DETUNING

Turn the core of T203 two or more times.

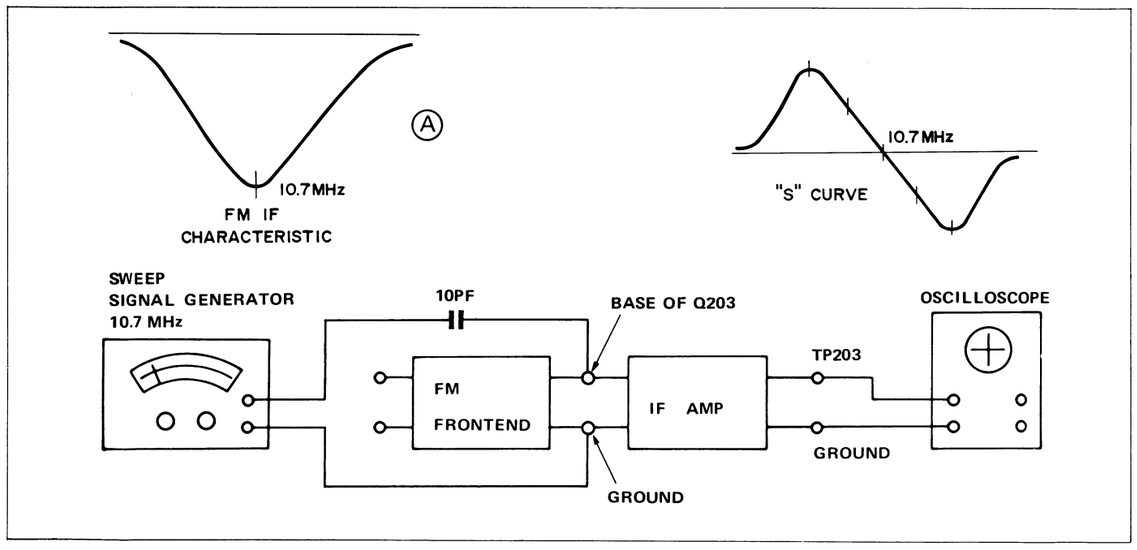


Figure 11 FM IF ALIGNMENT EQUIPMENT CONNECTIONS

FM RF ALIGNMENT

PROCEDURE NUMBER		SIGNAL GENERATOR CONNECTION	SIGNAL GENERATOR FREQUENCY	DIAL POINTER SETTING	FUNCTION SETTING	METER CONNECTION	ADJUSTMENT	REMARKS
1	Band Coverage	FM ANT terminal (through 300 ohm matching pad)	109 MHz Modulated	High end of Dial	FM	TP203	Oscillator trimmer TC3	Adjust for maximum output. Repeat 2 or 3 times.
2		Same as above	87.4 MHz Modulated	Low end of Dial	FM	Same as above	Oscillator coil L104	Same as above
3	Tracking	Same as above	106 MHz	106 MHz	FM	Same as above	RF trimmer TC2 ANT trimmer TC1	Same as above
4		Same as above	90 MHz	90 MHz	FM	Same as above	RF coil L102	Same as above
5	If necessary, repeat step 1 – step 4.							

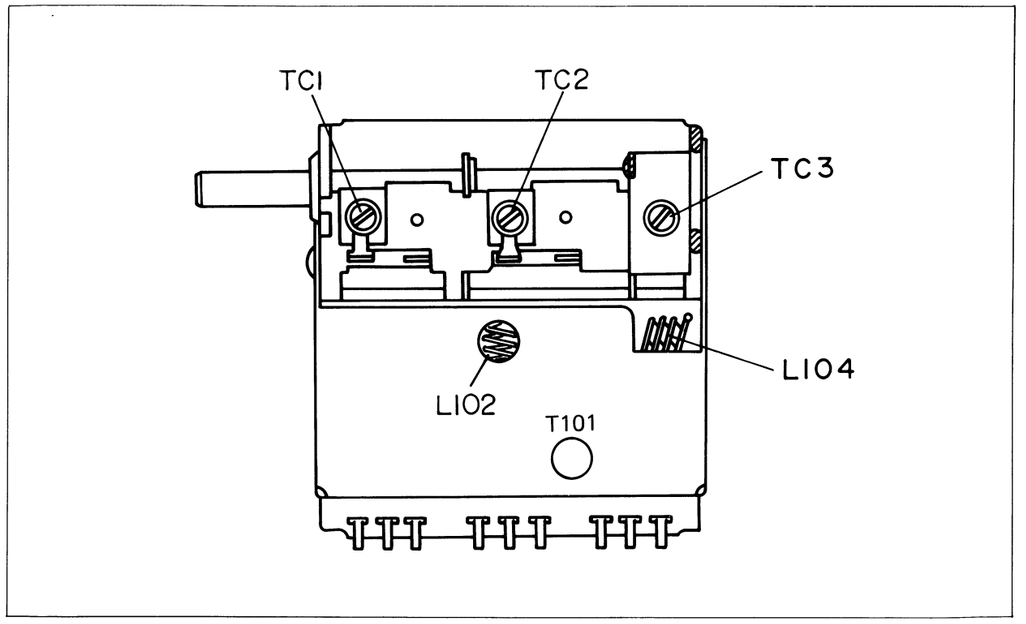


Figure 12 FM RF ALIGNMENT POINTS

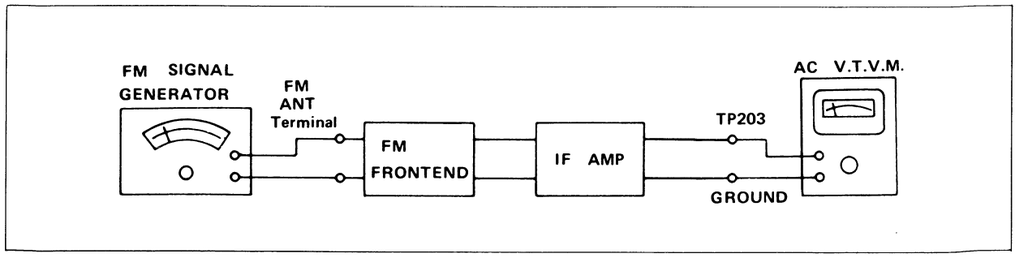


Figure 13 FM RF ALIGNMENT EQUIPMENT CONNECTIONS

FM STEREO ALIGNMENT

PROCEDURE NUMBER	STEREO SIGNAL GENERATOR		TUNING FREQUENCY	FUNCTION SETTING	METER CONNECTION	ADJUSTMENT	REMARKS
	CONNECTION	MOD. FREQUENCY					
1	FM-ANT Terminal	19 kHz Mod. level as small as possible	98 MHz	FM & STEREO (MONO: OFF)	TP204	L207 L208	Get the maximum point. Repeat 2 or 3 times.
2	FM-ANT Terminal	19 kHz 10% Mod. 1 kHz ch. L only 13.5% Mod.	98 MHz	FM & STEREO (MONO: OFF)	Across ch. R Output Load. (SO-505)	L208 (Readjust)	Get the minimum output point.

Note: Output level of FM Signal Generator which is modulated by a FM Stereo Signal Generator shall be 1 mV (60 dB).

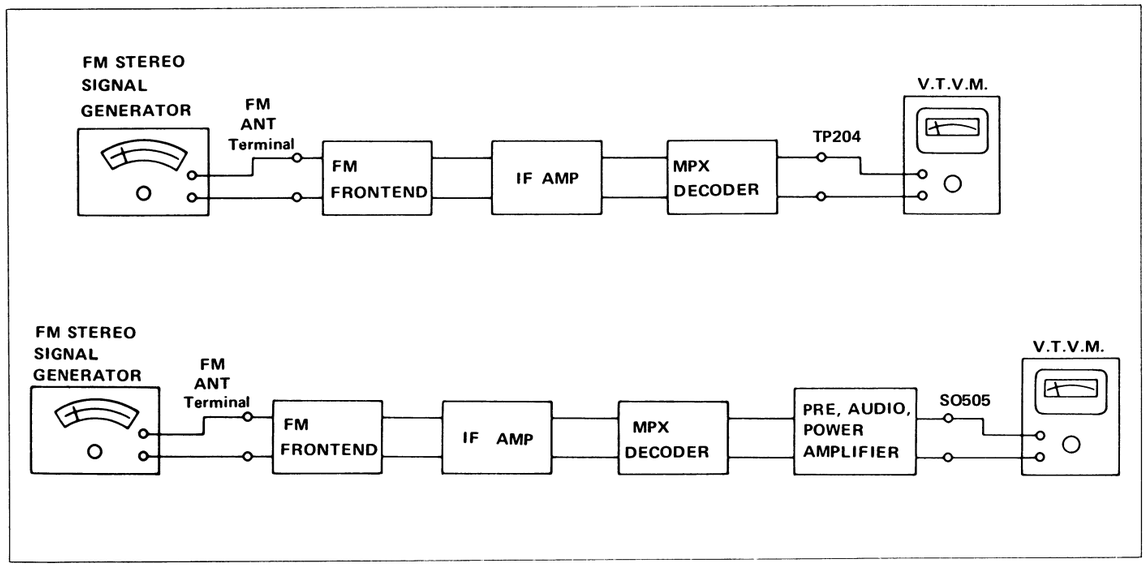


Figure 14 FM STEREO ALIGNMENT EQUIPMENT CONNECTIONS

BIAS CURRENT ADJUSTMENT OF THE POWER TRANSISTOR (Refer to figure 15)

If the power transistors Q409 ~ Q412 are changed, it is required to readjust those in pair so that they will operate with good balance.

1) Have the variable resistor VR401 (VR402) being connected to the collector of Q403 (Q404) placed at "minimum" resistance value (fully turn it counter-clockwise).
2) Adjust the variable resistor VR401 (VR402) so that the voltage between the test point TP401 (TP402) and the test point TP403 (TP404) becomes 9.5mV.

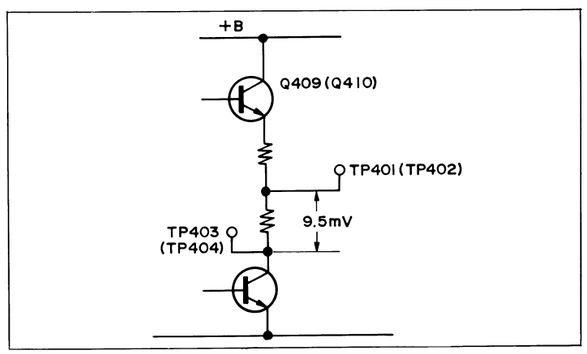


Figure 15

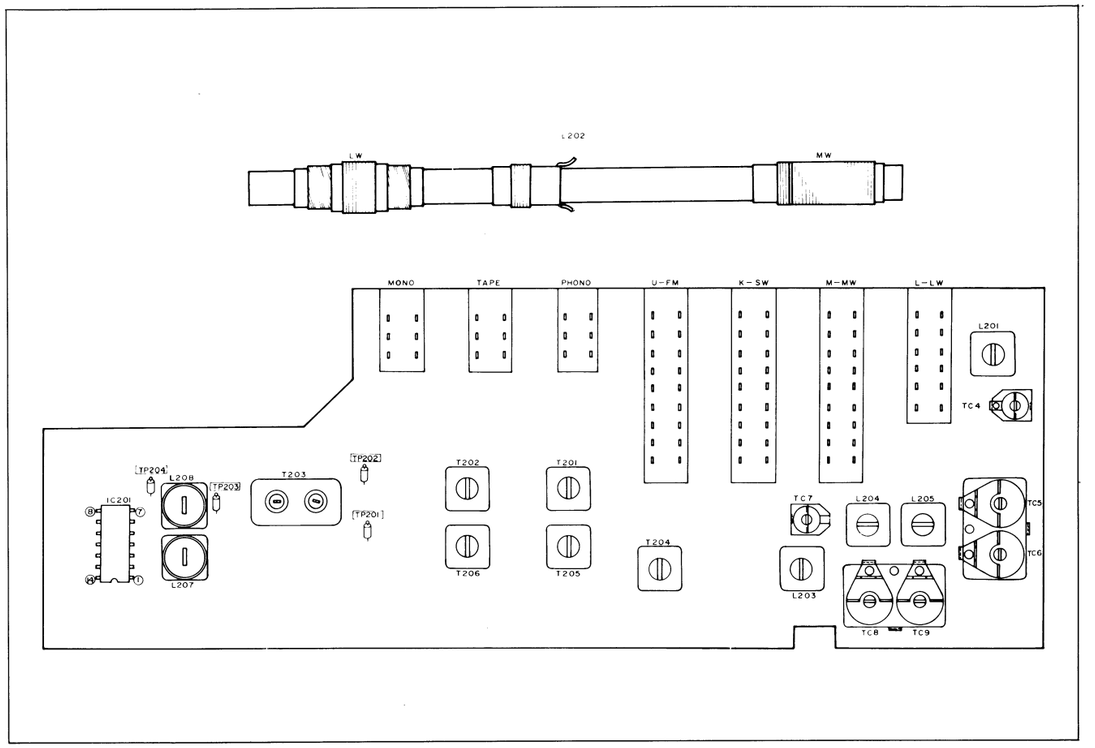


Figure 16 TUNER ALIGNMENT POINTS

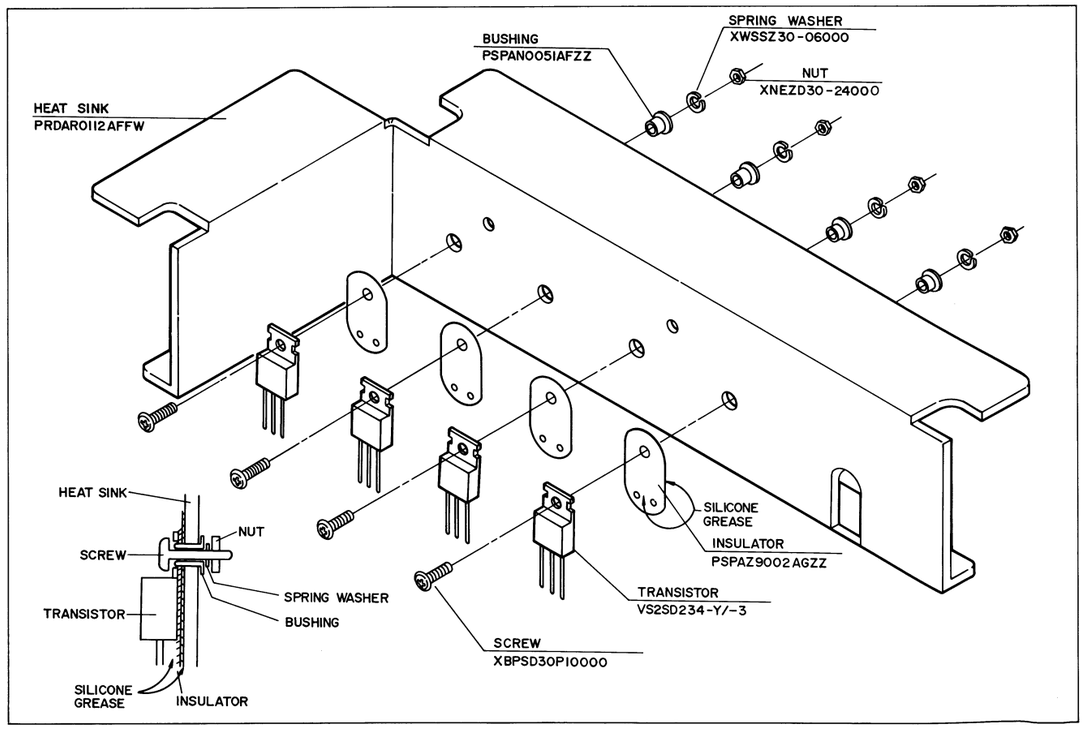


Figure 17 POWER TRANSISTOR REPLACEMENT

VOLTAGE SELECTION (Refer to Figure 18)

If the setting is different from that of your local supply mains voltage the selector must be re-set as follows.

1. Disconnect the mains plug from the wall outlet.
2. Rotate the voltage selector by using a screw driver so that your local voltage number can be seen.

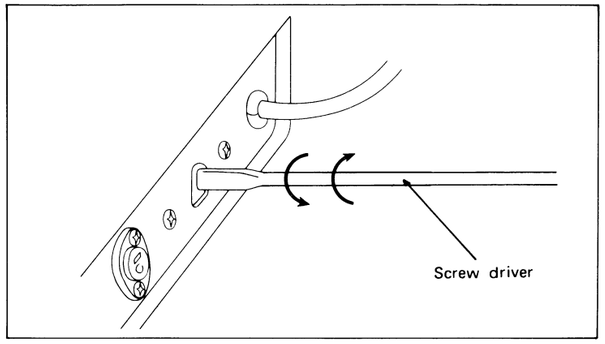


Figure 18

VOLTAGE FREQUENCY SELECTION (Refer to Figure 19)

This unit has been so adjusted before delivery from the factory that it functions on a power supply of 50Hz. To operate it on the household power of 60Hz, change the unit as follows.

1. Remove the turntable by pulling upward.
2. Lift up the player board at the lefthand and slide the player board to the left.
3. While lifting up the player board at this side, disconnect the pin plugs and phono motor connector.
4. Remove the player from the unit.
5. Remove the motor pulley by unscrewing the fixing screw and replace with 60Hz motor pulley (accessory).
6. Unsolder the lead wire connected the tip (marked 50) of motor and connect it to the other tip (marked 60).

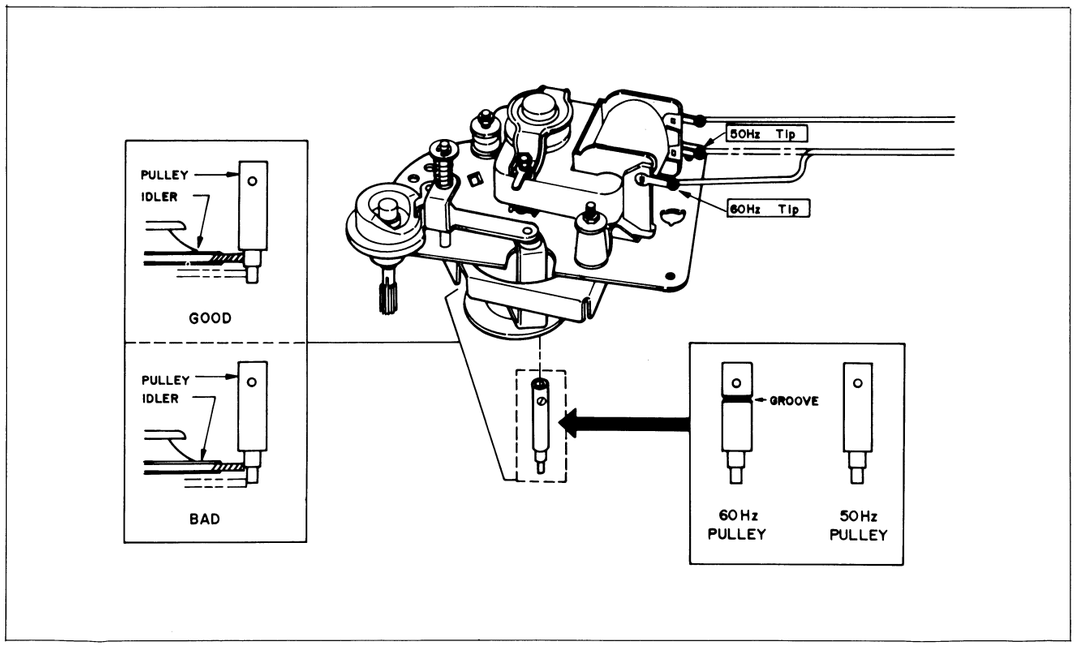


Figure 19

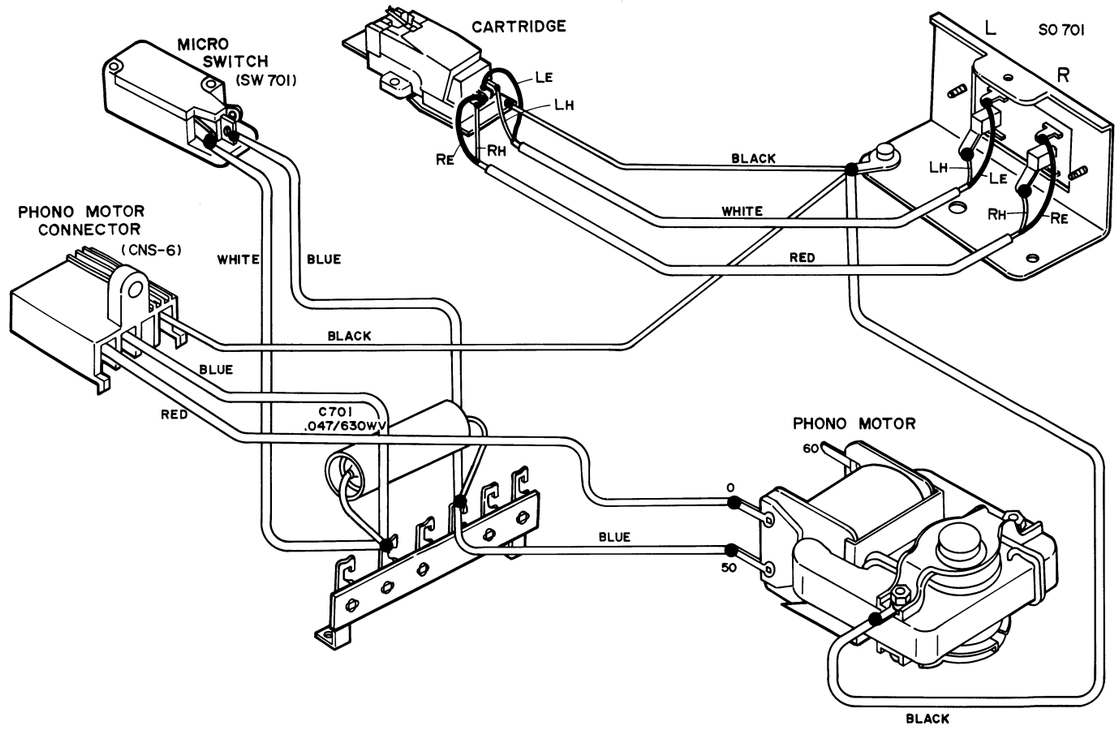


Figure 20 WIRING CONNECTION OF RECORD PLAYER

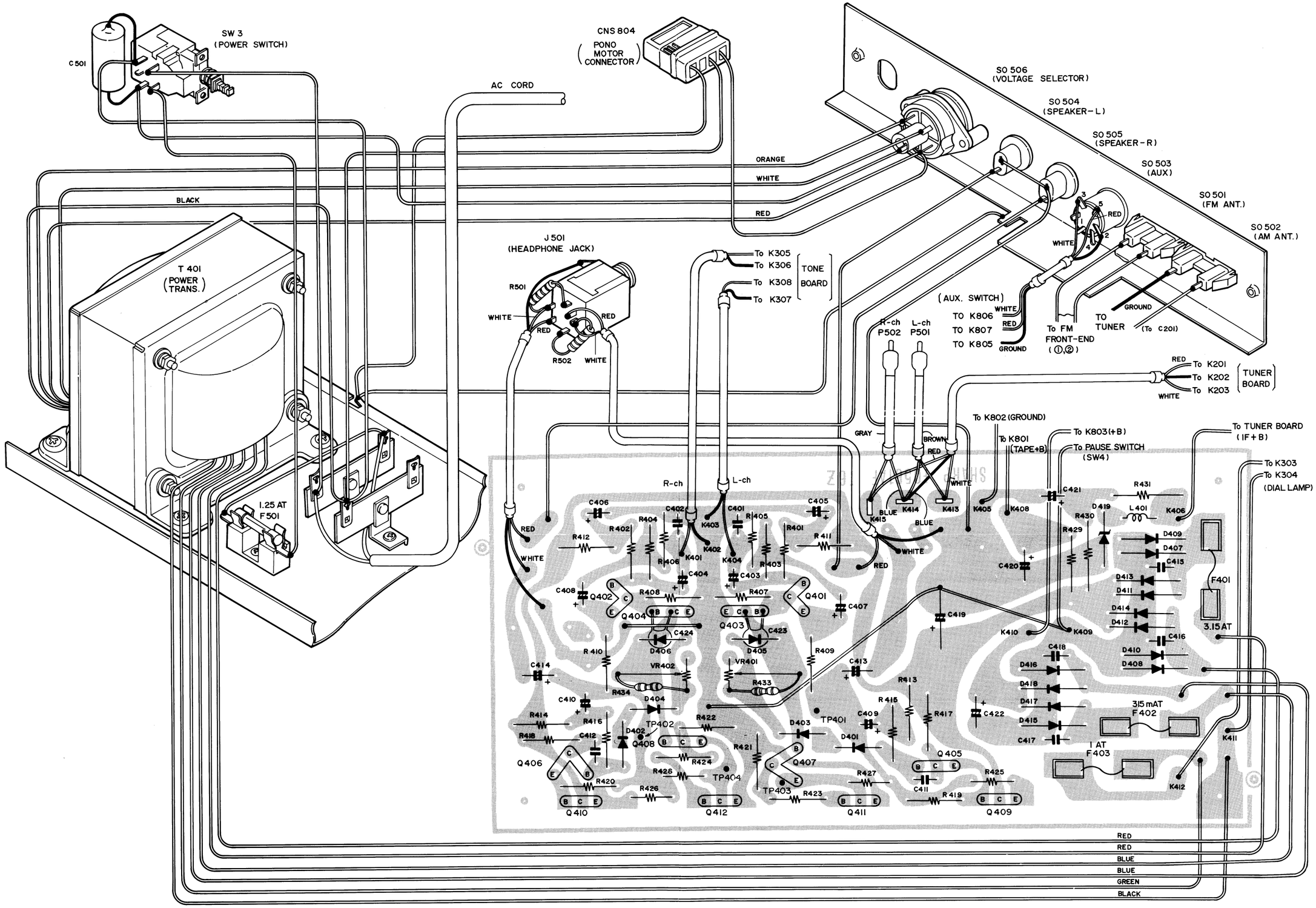
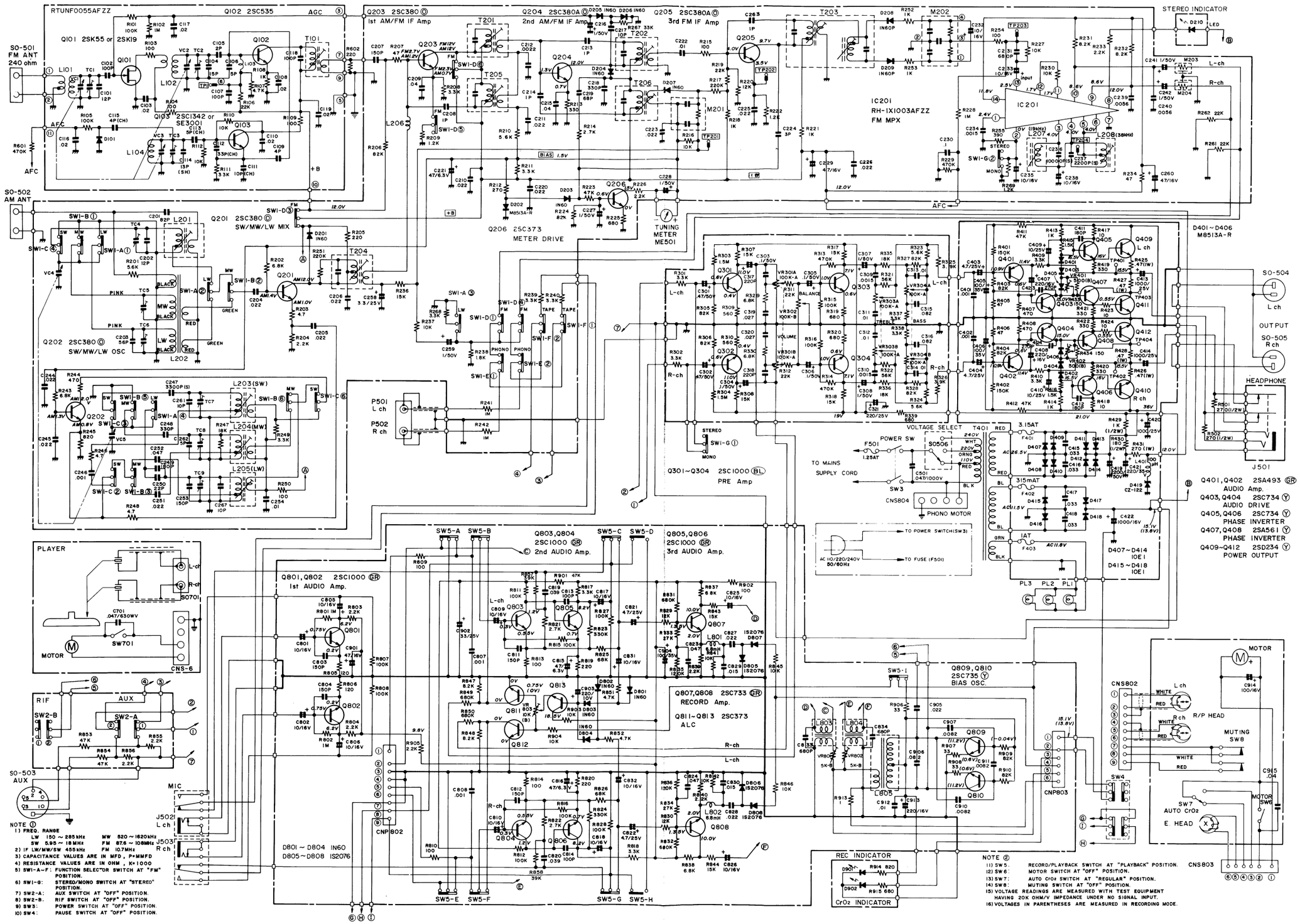
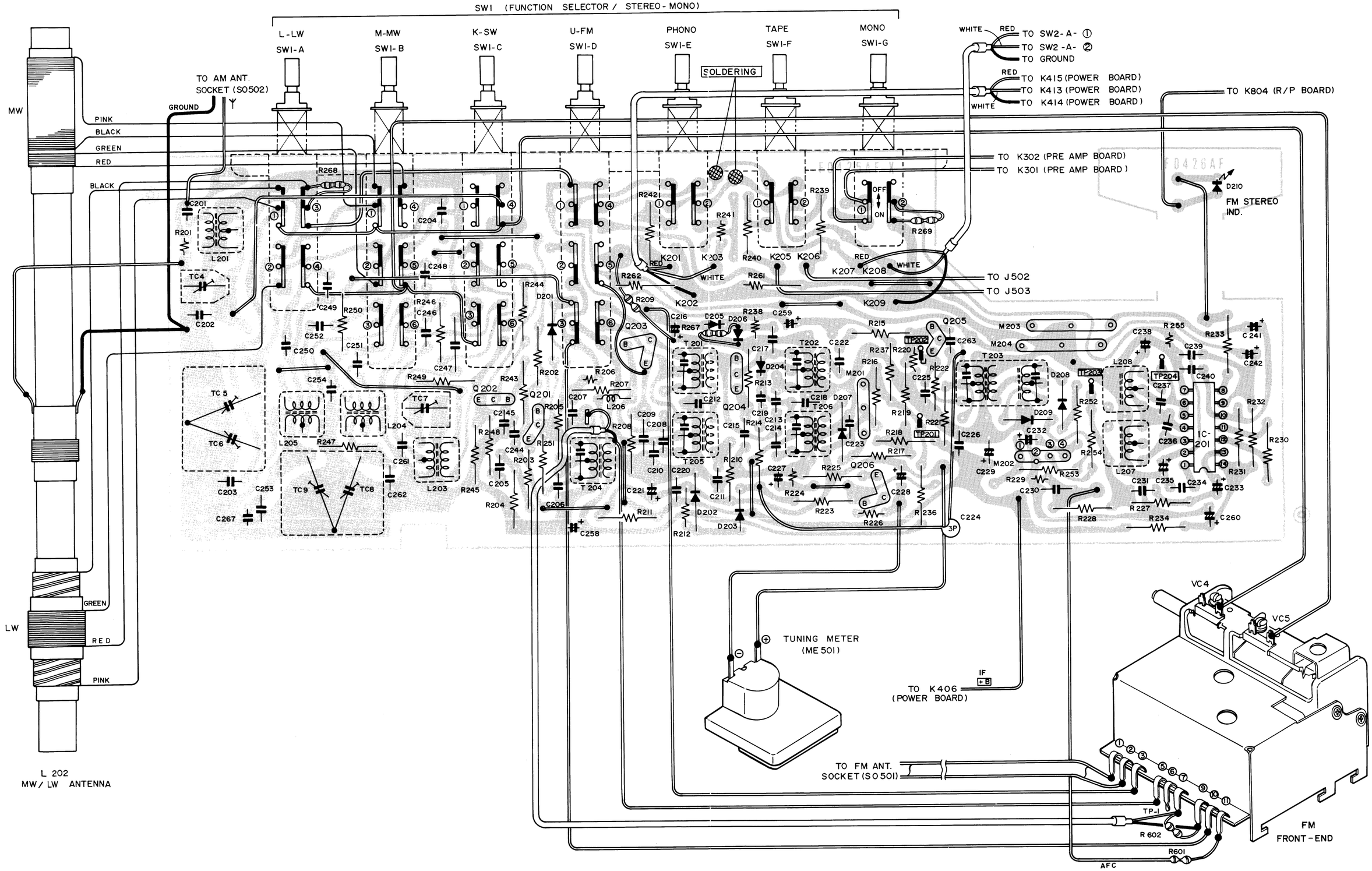


Figure 21 WIRING SIDE OF POWER AMP. BOARD



(Specifications of wiring diagrams of this model are subject to change for the improvement without prior notice.)

Figure 22 SCHEMATIC DIAGRAM



L 202
MW / LW ANTENNA

Figure 23 WIRING SIDE OF TUNER AMP. BOARD

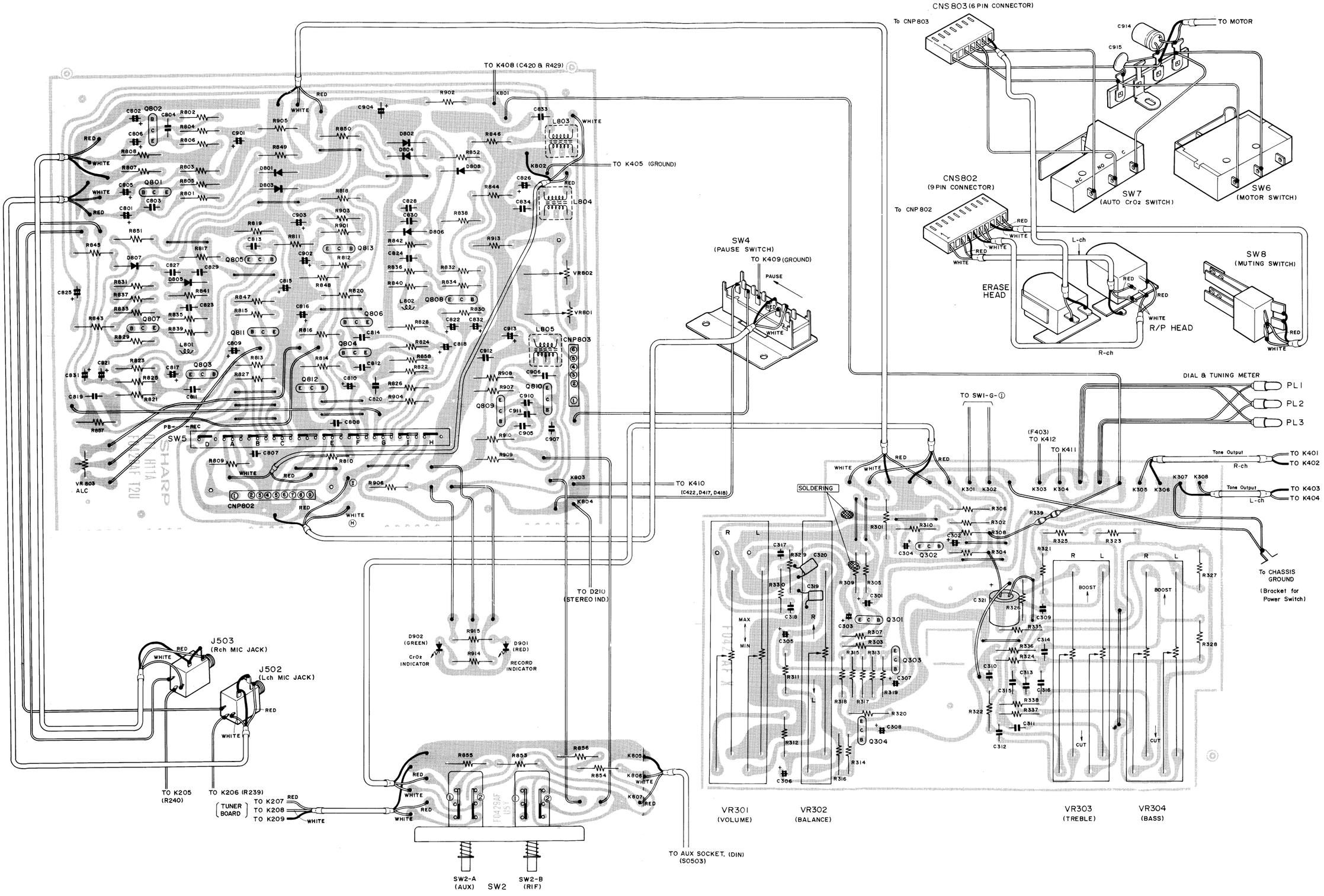


Figure 24 WIRING SIDE OF PRE AMP./DECK AMP. BOARDS

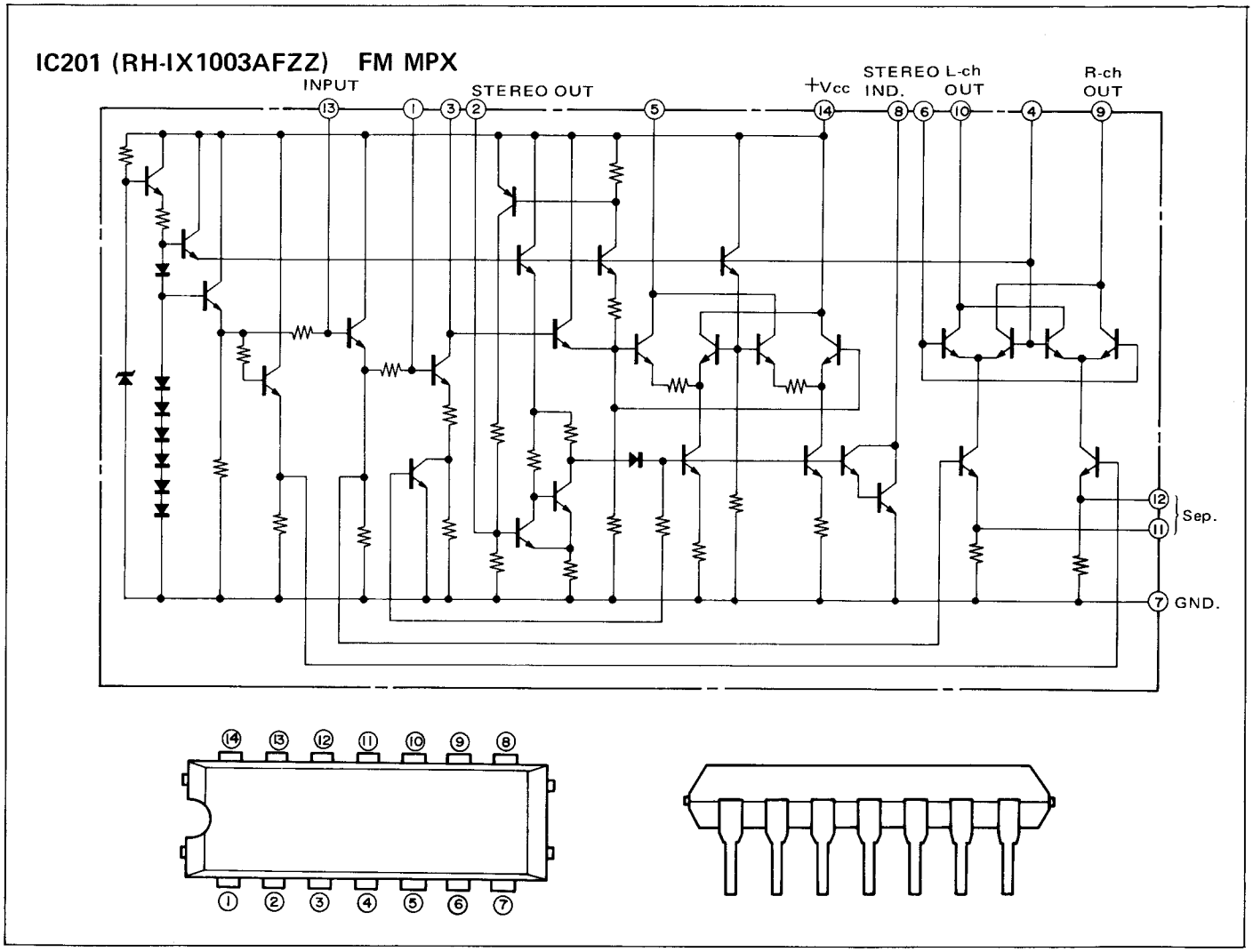


Figure 25 EQUIVALENT CIRCUIT OF IC201

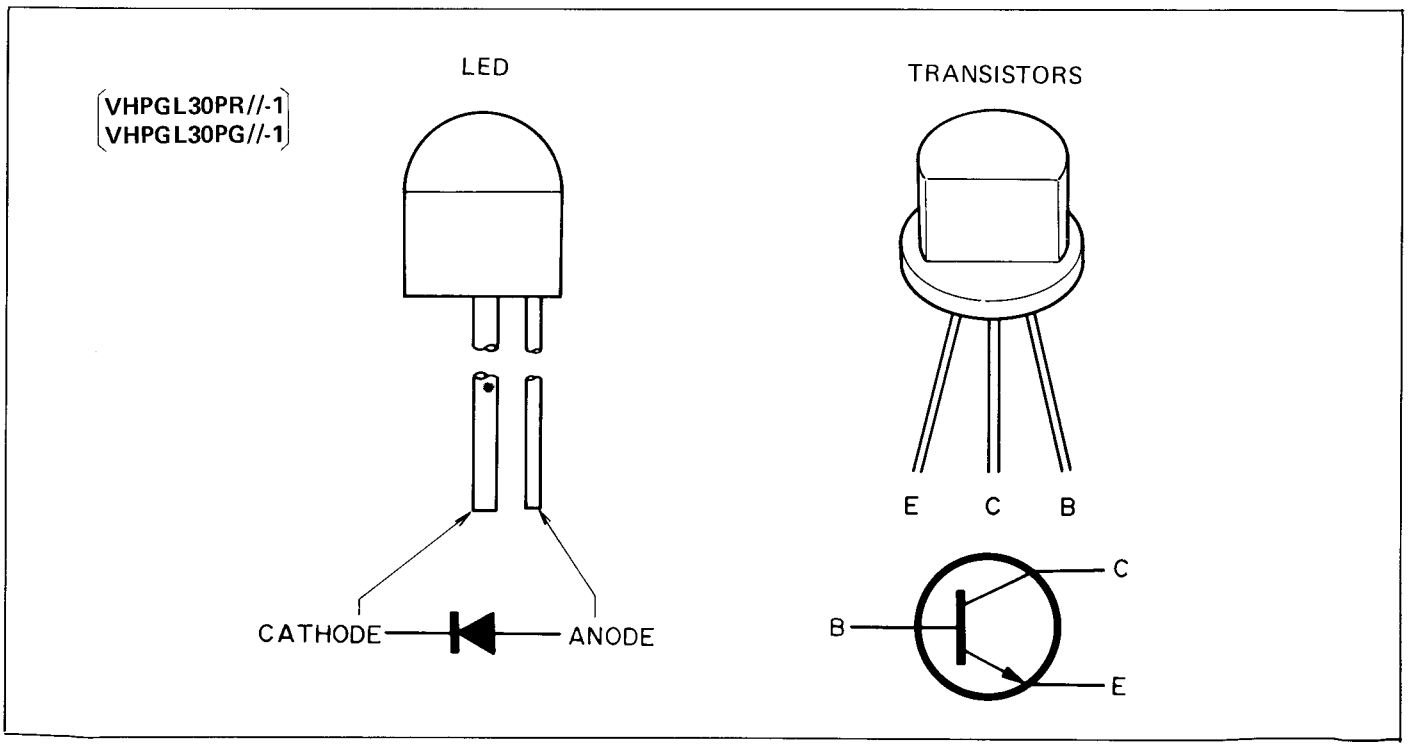


Figure 26 TERMINAL GUIDE OF TRANSISTORS AND LED

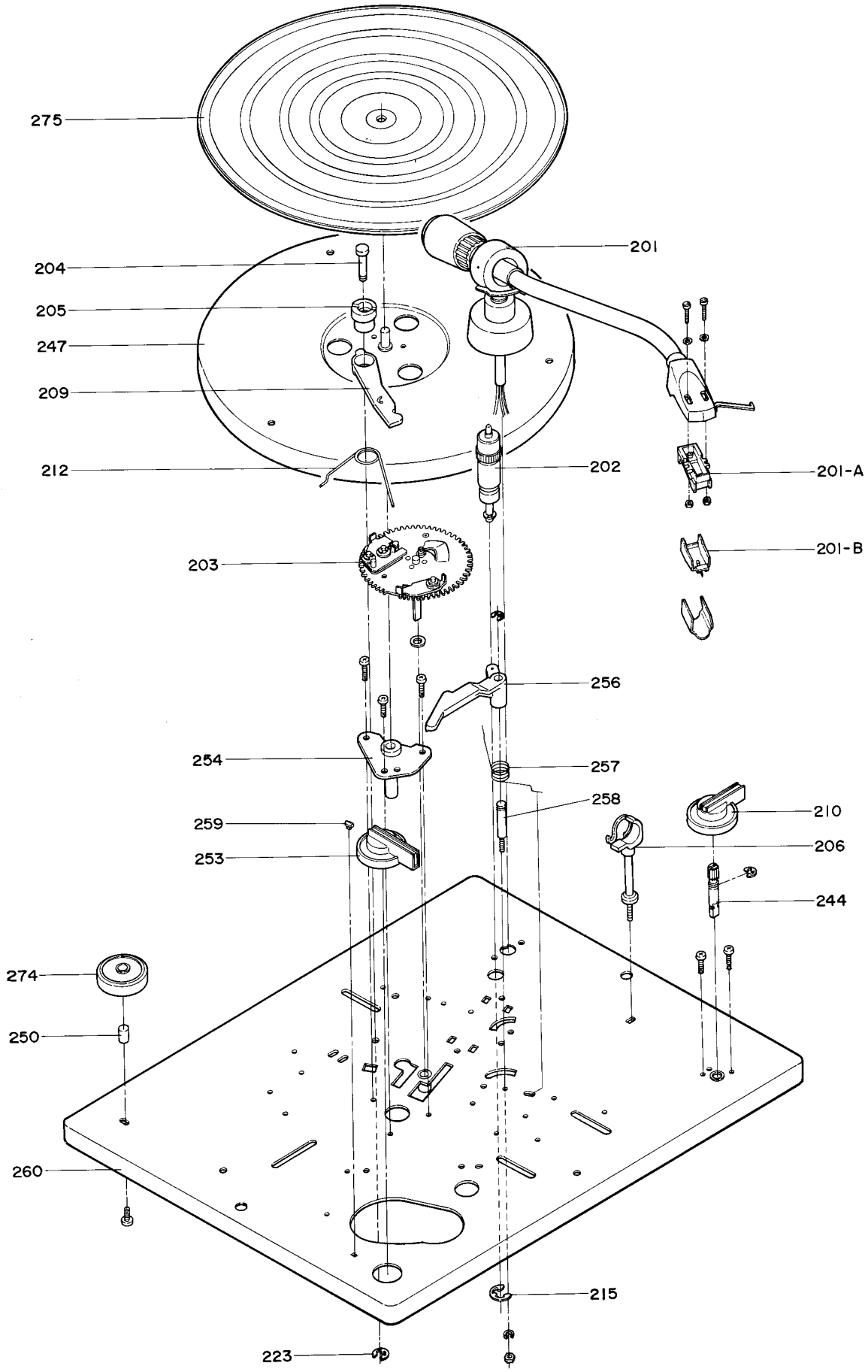


Figure 27 PLAYER EXPLODED TOP VIEW

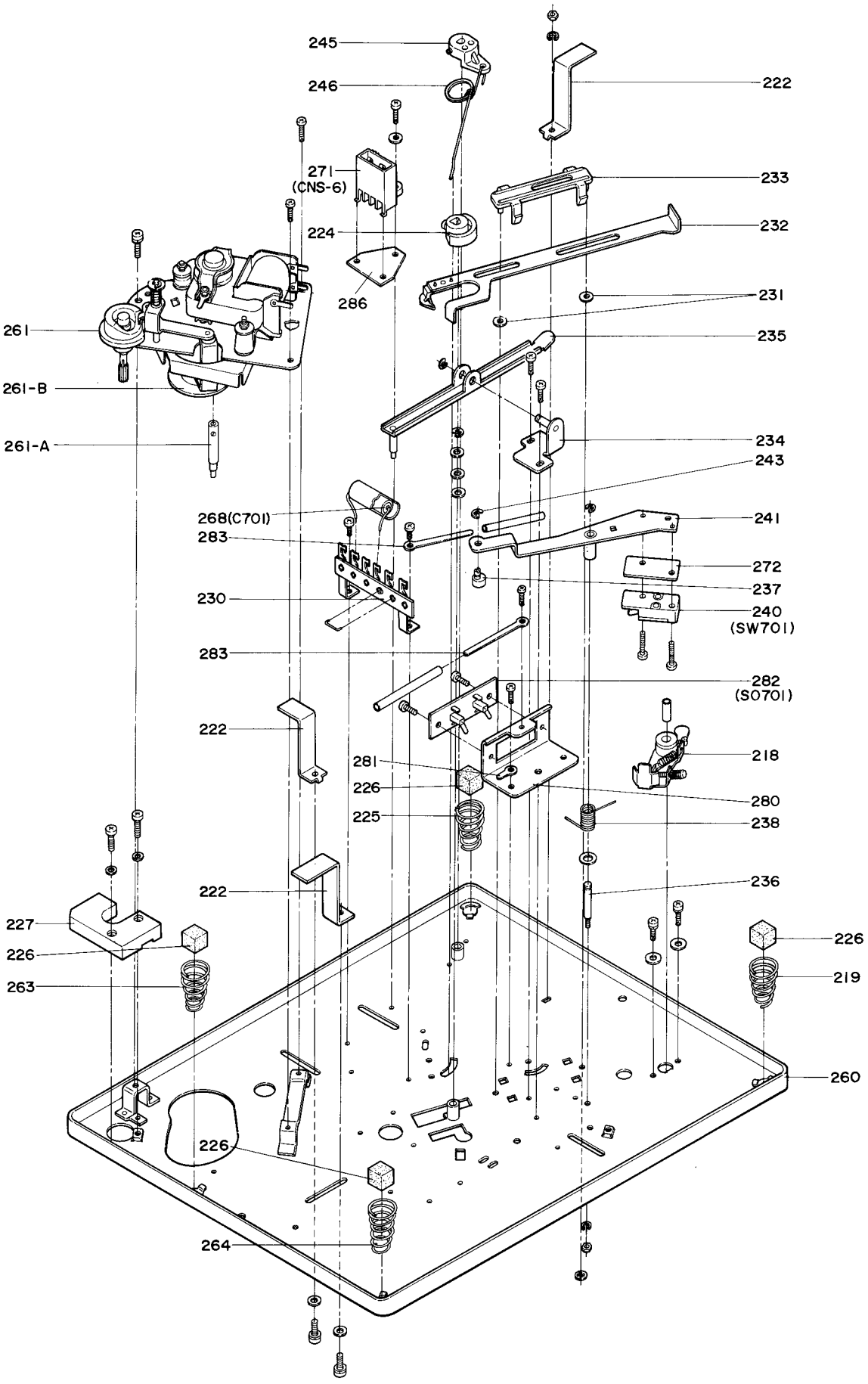


Figure 28 PLAYER EXPLODED BOTTOM VIEW

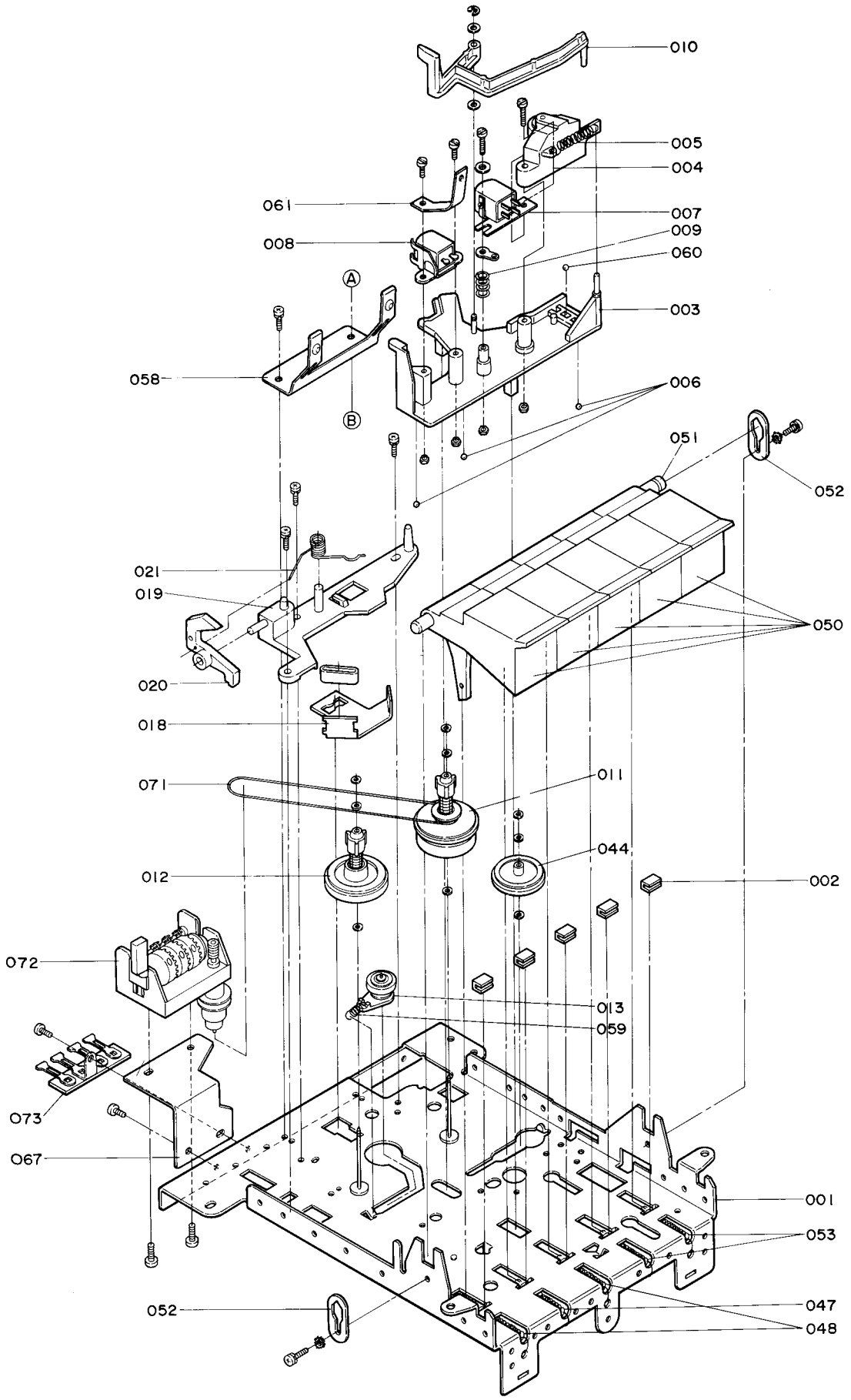


Figure 29 TAPE DECK MECHANISM EXPLODED TOP VIEW

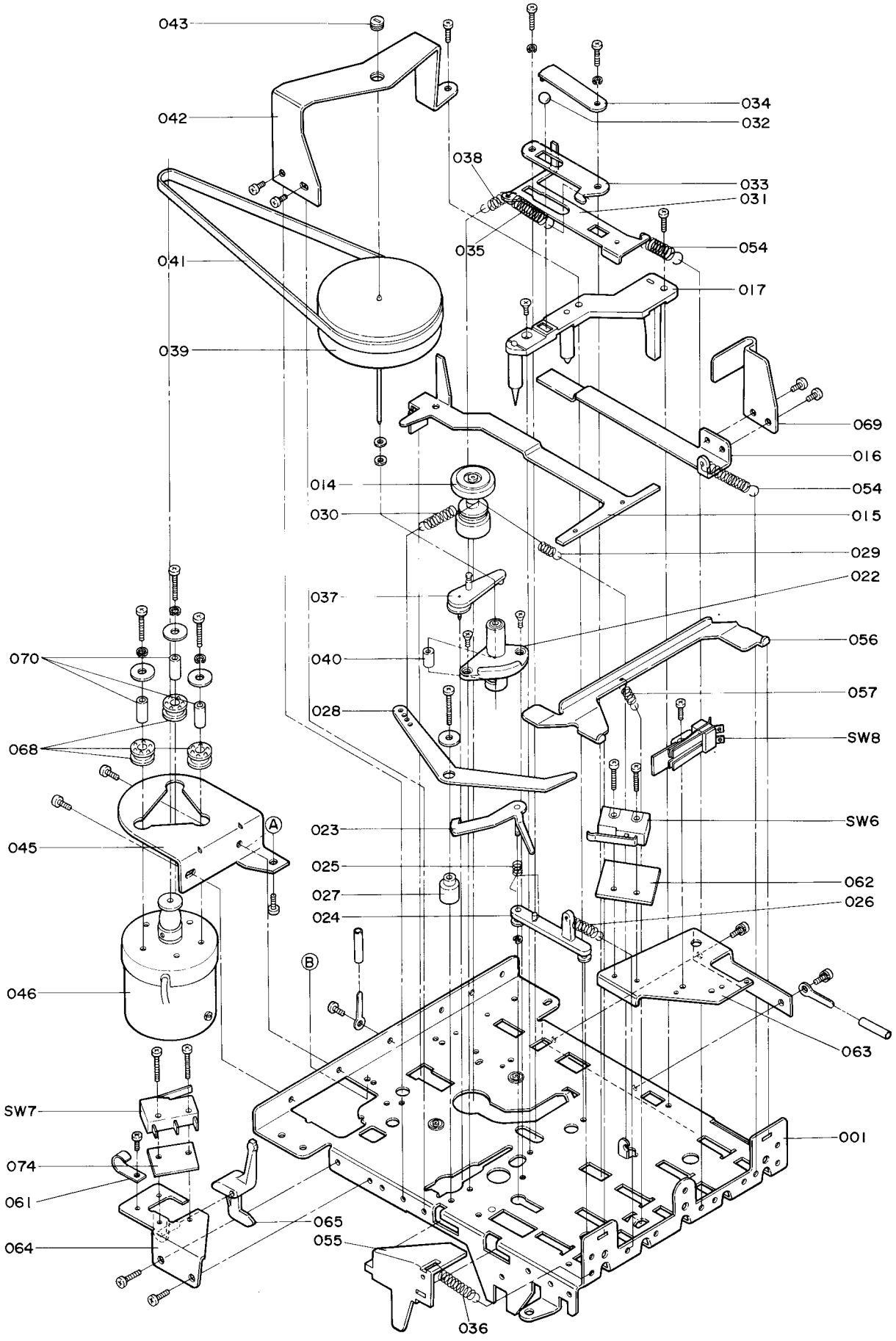


Figure 30 TAPE DECK MECHANISM EXPLODED BOTTOM VIEW

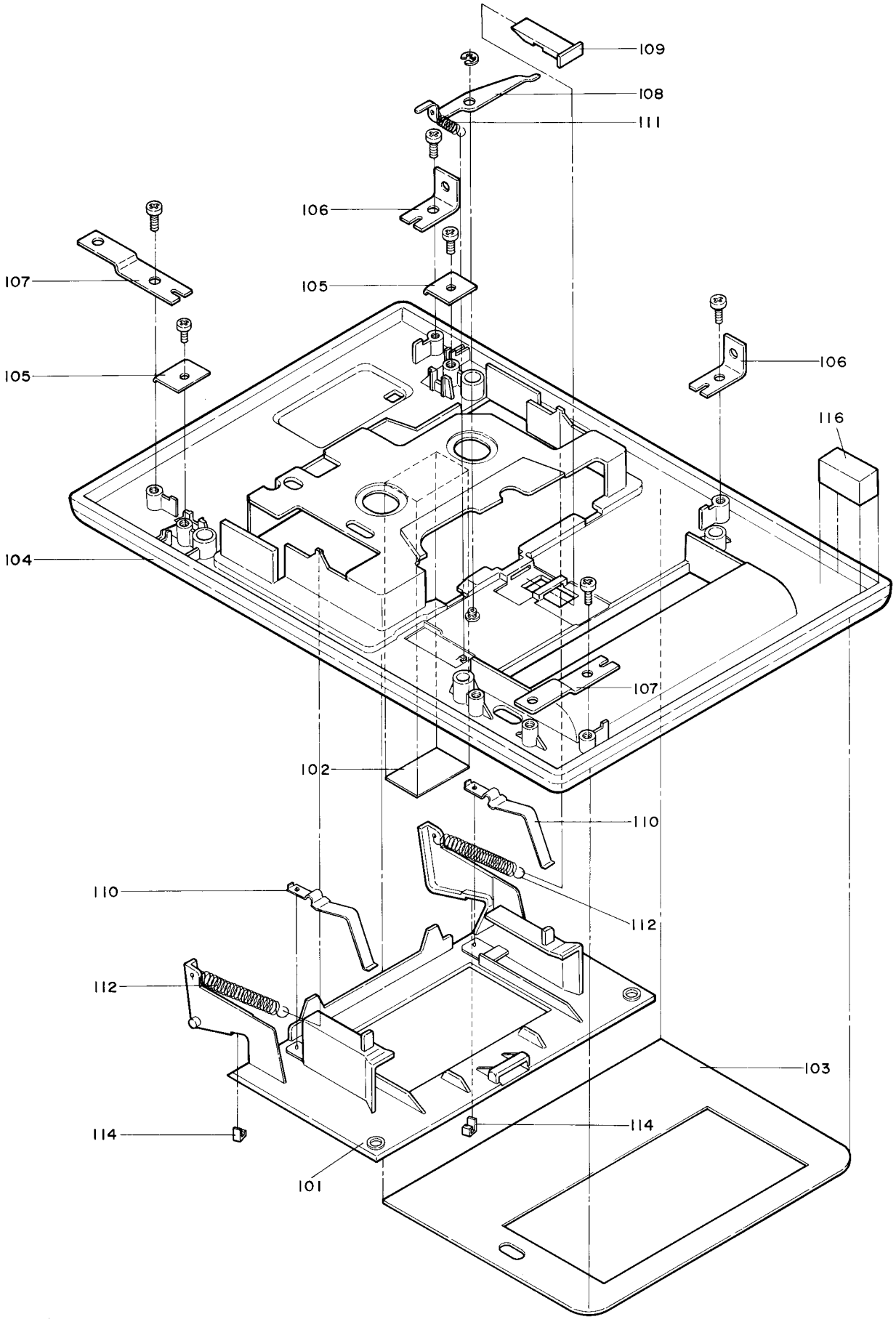


Figure 31 TAPE DECK PANEL EXPLODED VIEW

REPLACEMENT PARTS LIST

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION

REF. NO.	PART NO.	DESCRIPTION	CODE
		IC (Integrated Circuit)	
IC201	RH-IX1003AFZZ	FM MPX	AM
		TRANSISTORS	
Q201	VS2SC380-O/-1	SW/MW/LW Mixer (2SC380 Ⓞ)	AF
Q202	VS2SC380-O/-1	SW/MW/LW Oscillator (2SC380 Ⓞ)	AF
Q203	VS2SC380-O/-1	1st AM/FM IF Amp. (2SC380 Ⓞ)	AF
Q204	VS2SC380AO/-1	2nd AM/FM IF Amp. (2SC380AⓄ)	AF
Q205	VS2SC380AO/-1	3rd FM IF Amp. (2SC380AⓄ)	AF
Q206	VS2SC373-G/-1	Meter Drive (2SC373)	AF
Q301, Q302	VS2SC1000BL-1	Pre Amp. (2SC1000Ⓑ)	AF
Q303, Q304	VS2SC1000BL-1	Pre Amp. (2SC1000Ⓑ)	AF
Q401, Q402	VS2SA493-G/-1	Audio Amp. (2SA493 Ⓖ)	AD
Q403, Q404	VS2SC734-Y/1G	Audio Driver (2SC734Ⓨ)	AF
Q405, Q406	VS2SC734-Y/1G	Phase Inverter (2SC734Ⓨ)	AF
Q407, Q408	VS2SA561-Y/1G	Phase Inverter (2SA561Ⓨ)	AG
Q409, Q410, Q411, Q412	VS2SD234-Y/-3	Power Output (Matched Pairs) (2SD234Ⓨ)	AH
Q801, Q802	VS2SC1000GR-1	1st Audio Amp. (2SC1000 Ⓖ)	AF
Q803, Q804	VS2SC1000GR-1	2nd Audio Amp.(2SC1000Ⓖ)	AF
Q805, Q806	VS2SC1000GR-1	3rd Audio Amp. (2SC1000Ⓖ)	AF
Q807, Q808	VS2SC733GR/-1	Record Amp. (2SC733 Ⓖ)	AF
Q809, Q810	VS2SC735-Y/-1	Bias Oscillator (2SC735 Ⓨ)	AF
Q811, Q812, Q813	VS2SC373-G/-1	ALC (2SC373)	AF
		DIODES	
D201	VHD1N60////-1	AM Overload (1N60)	AC
D202	VHVM8513A-R-1	Voltage Regulator, Varistor (M8513A-R)	AB
D203	VHD1N60////-1	Meter (1N60)	AC
D204	VHD1N60////-1	Overload (1N60)	AC
D205	VHD1N60////-1	FM AGC (1N60)	AC
D206	VHD1N60////-1	FM AGC (1N60)	AC
D207	VHD1N60////-1	AM Detector (1N60)	AC
D208, D209	VHD1N60////-3	FM Detector (Matched Pair) (1N60Ⓟ)	AB
D210	VHPGL30PR//-1	Light Emitting Diode, Stereo Indicator, Red	AE
D401, D402, D403, D404, D405, D406	VHVM8513A-R-1	Varistor, Thermal Compensation (M8513A-R)	AB
D407, D408, D409, D410, D411, D412, D413, D414	VHD10E1////-1	Rectifier, Power (10E1)	AC
D415, D416, D417, D418	VHD10E1////-1	Rectifier, Power (10E1)	AC
D419	VHECZ-122//1G	Zener Diode, Voltage Regulator (11.9 ~ 12.6V) (CZ-122)	AG
D801, D802	VHD1N60////-1	ALC (1N60)	AC
D803, D804	VHD1N60////-1	ALC (1N60)	AC
D805, D806	VHD1S2076//-1	CrO_2 Auto Selector (1S2076)	AB
D807, D808	VHD1S2076//-1	CrO_2 Auto Selector (1S2076)	AB
D901	VHPGL30PR//-1	Light Emitting Diode, Record Indicator, Red	AE
D902	VHPGL30PG//-1	Light Emitting Diode, CrO_2 Indicator, Green	AG
		COILS	
L201	RCILA0365AFZZ	SW Antenna	AD
L202	RCILA0364AFZZ	LW/MW Antenna	AL
L203	RCILB0366AFZZ	SW Oscillator	AD
L204	RCILB0397AFZZ	MW Oscillator	AE
L205	RCILB0072AFZZ	LW Oscillator	AD

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
L206	RCILC0017AFZZ	Choke	AC
L207	RCILM0050AFZZ	FM MPX, 19kHz Signal	AE
L208	RCILM0051AFZZ	FM MPX, 38kHz Signal	AE
L401	VP-LH101K0000	Choke, 100μH	AB
L801, L802	RCILZ0019AGZZ	Peaking, 6.8mH	AD
L803, L804	RCILB0376AFZZ	Bias Trap	AE
L805	RCILB0085AGZZ	Bias Oscillation	AF
TRANSFORMERS			
T201	RCILI0059AGZZ	2nd FM IF	AG
T202	RCILI0059AGZZ	3rd FM IF	AG
T203	RCILD0006AGZZ	FM Discriminator	AG
T204	RCILI0135AFZZ	1st AM IF	AD
T205	RCILI0136AFZZ	2nd AM IF	AD
T206	TCILI0161AFZZ	3rd AM IF	AD
T401	RTRNP0461AFZZ	Power	BD
CONTROLS			
TC4	RTO-H1004AFZZ	Trimmer, SW Antenna	AC
TC5, TC6	RTO-H2011AGZZ	Trimmer Assembly TC5: MW Antenna Trimmer TC6: LW Antenna Trimmer	AD
TC7	RTO-H1004AFZZ	Trimmer, SW Oscillator	AC
TC8, TC9	RTO-H2011AGZZ	Trimmer Assembly TC8: MW Oscillator Trimmer TC9: LW Oscillator Trimmer	AD
VR301 -A, B	RVR-P0053AFZZ	Volume, 100K (A) ohm	AL
VR302	RVR-Q0050AFZZ	Balance, 100K (B) ohm	AH
VR303 -A, B	RVR-P0052AFZZ	Treble, 100K (A) ohm	AL
VR304 -A, B	RVR-P0052AFZZ	Bass, 100K (A) ohm	AL
VR401, VR402	RVR-M0122AFZZ	500 (B) ohm, Idle Current Adjust	AC
VR801, VR802	RVR-M0049AGZZ	5K (B) ohm, Bias Current Adjust	AC
VR803	RVR-M0015AGZZ	ALC, 10K (B) ohm	AC
PACKAGED CIRCUITS			
M201	RMPTA0011AFZZ	Capristor, 470 ohm + .02MFD x 2	AC
M202	RMPTA0084AFZZ	Capristor, 4.7K ohm x 2 + 330PF x 3	AC
M203, M204	RMPTA0064AFZZ	Capristor, 38kHz Filter	AE
ELECTROLYTIC CAPACITORS (Unless otherwise specified capacitors are +50 −10%, Electrolytic type.)			
C216	VCEAAU1HW105A	1MFD, 50V, +75 −10%	AB
C221	VCEAAU0JW476Y	47MFD, 6.3V	AB
C227	VCEAAU1HW105A	1MFD, 50V, +75 −10%	AB
C228	VCEAAU1HW105A	1MFD, 50V, +75 −10%	AB
C229	VCEAAU1CW476Y	47MFD, 16V	AC
C232	VCEAAU1CW106Y	10MFD, 16V	AB
C233	VCEAAU1CW106Y	10MFD, 16V	AB
C235	VCEAAU1CW106Y	10MFD, 16V	AB
C238	VCEAAU1CW106Y	10MFD, 16V	AB
C241, C242	VCEAAU1HW105A	1MFD, 50V, +75 −10%	AB
C258	VCEAAU1EW335A	3.3MFD, 25V, +75 −10%	AB
C259	VCEAAU1HW105A	1MFD, 50V, +75 −10%	AB
C260	VCEAAU1CW476Y	47MFD, 16V	AC
C301, C302	VCEALU1HW474M	.47MFD, 50V, ±20%	AB
C303, C304	VCEALU1HW104M	.1MFD, 50V, ±20%	AB
C305, C306	VCEALU1HW104M	.1MFD, 50V, ±20%	AB
C307, C308	VCEAAU1HW105A	1MFD, 50V, +75 −10%	AB
C321	VCEAAU1EW227Y	220MFD, 25V	AC
C403, C404	VCEAAU1EW475A	4.7MFD, 25V, +75 −10%	AB
C405, C406	VCEAAU1VW107Y	100MFD, 35V	AD
C407, C408	VCEAAU1CW227Y	220MFD, 16V	AC
C409, C410	VCEAAU1EW106Y	10MFD, 25V	AB
C413, C414	VCEAAU1EW108Y	1000MFD, 25V	AF
C419	VCEAAU1HW228Y	2200MFD, 50V	AK
C420	VCEAAU1EW108Y	1000MFD, 25V	AF
C421	VCEAAU1VW227Y	220MFD, 35V	AD
C422	VCEAAU1CW108Y	1000MFD, 16V	AE
C801, C802	VCEAAU1CW106Y	10MFD, 16V	AB
C805, C806	VCEAAU1CW106Y	10MFD, 16V	AB
C809, C810	VCEALU1CC106Y	10MFD, 16V (Low Noise Type)	AC
C815, C816	VCEAAU0JW476Y	47MFD, 6.3V	AB
C817, C818	VCEAAU1CW106Y	10MFD, 16V	AB
C821, C822	VCEAAU1EW475A	4.7MFD, 25V, +75 −10%	AB
C825, C826	VCEAAU1CW106Y	10MFD, 16V	AB
C831, C832	VCEAAU1CW106Y	10MFD, 16V	AB
C901	VCEAAU1CW476Y	47MFD, 16V	AC
C902	VCEAAU1AW336Y	33MFD, 10V	AB
C903	VCEAAU1AW227Y	220MFD, 10V	AC
C904	VCEAAU1VW107Y	100MFD, 35V	AD
C913	VCEAAU1CW227Y	220MFD, 16V	AC
C914	VCEAAU1CW107Y	100MFD, 16V	AC

PARTS LIST

CAPACITORS

(Unless otherwise specified capacitors are 50V, ±10%, Mylar type.)

REF. NO.	PART NO.	DESCRIPTION	CODE
C201	VCCSPU1HL820J	82PF, 50V, ±5%, Ceramic	AA
C202	VCCSPU1HL120J	12PF, 50V, ±5%, Ceramic	AA
C203	VCCSBU1HL560J	56PF, 50V, ±5%, Ceramic	AA
C204	VCKZPU1HF223Z	.022MFD, 50V, +80 −20%, Ceramic	AA
C205, C206	VCQYKU1HM223K	.022MFD	AB
C207	VCCSBU1HL151J	150PF, 50V, ±5%, Ceramic	AA
C208	VCCSPU1HL1R0C	1PF, 50V, ±.25PF, Ceramic	AA
C209	VCKZPU1HF403Z	.04MFD, 50V, +80 −20%, Ceramic	AB
C210	VCQYKU1HM223M	.022MFD, 50V, ±20%, Mylar	AB
C211	VCKZPU1HF223Z	.022MFD, 50V, +80 −20%, Ceramic	AA
C212	VCQYKU1HM222M	.0022MFD, 50V, ±20%, Mylar	AB
C213, C214	VCCSPU1HL1R0C	1PF, 50V, ±.25PF, Ceramic	AA
C215	VCKZPU1HF403Z	.04MFD, 50V, +80 −20%, Ceramic	AB
C217	VCCSPU1HL100C	10PF, 50V, ±.25PF, Ceramic	AA
C218	VCCSBU1HL331J	330PF, 50V, ±5%, Ceramic	AA
C219	VCCSPU1HL680K	68PF, 50V, ±10%, Ceramic	AA
C220	VCQYKU1HM223M	.022MFD, 50V, ±20%, Mylar	AB
C222	VCKZPU1HF103Z	.01MFD, 50V, +80 −20%, Ceramic	AA
C223	VCKZPU1HF223Z	.022MFD, 50V, +80 −20%, Ceramic	AA
C224	VCCSPU1HL3R0C	3PF, 50V, ±.25PF, Ceramic	AA
C225, C226	VCKZPU1HF223Z	.022MFD, 50V, +80 −20%, Ceramic	AA
C230	VCKZPU1ND104M	.1MFD, 12V, ±20%, Ceramic	AC
C231	VCCSBU1HL681J	680PF, 50V, ±5%, Ceramic	AA
C234	VCQYKU1HM152K	.0015MFD	AB
C236	VCQSMT1HS103J	10000PF, 50V, ±5%, Styrol	AC
C237	VCQSMT1HS222J	2200PF, 50V, ±5%, Styrol	AB
C239, C240	VCQYKU1HM562K	.0056MFD	AB
C244	VCKZPU1HF223Z	.022MFD, 50V, +80 −20%, Ceramic	AA
C245	VCQYKU1HM223K	.022MFD	AB
C246	VCQYKU1HM102K	.001MFD	AB
C247	VCQSMT1HS332J	3300PF, 50V, ±5%, Styrol	AB
C248	VCCSBU1HL331J	330PF, 50V, ±5%, Ceramic	AA
C249	VCCSBU1HL181J	180PF, 50V, ±5%, Ceramic	AA
C250	VCCSPU1HL220J	22PF, 50V, ±5%, Ceramic	AA
C251	VCQYKU1HM223K	.022MFD	AB
C252	VCQYKU1HM473K	.047MFD	AC
C253	VCCSBU1HL151J	150PF, 50V, ±5%, Ceramic	AA
C254	VCQYKU1HM103K	.01MFD	AB
C261	VCCSPU1HL100C	10PF, 50V, ±.25PF, Ceramic	AA
C262	VCCSPU1HL5R0C	5PF, 50V, ±.25PF, Ceramic	AA
C263	VCCSPU1HL1R0C	1PF, 50V, ±.25PF, Ceramic	AA
C267	VCCSPU1HL100C	10PF, 50V, ±.25PF, Ceramic	AA
C309, C310	VCQYKU1HM152K	.0015MFD	AB
C311, C312	VCQYKU1HM103K	.01MFD	AB
C313, C314	VCQYKU1HM103K	.01MFD	AB
C315, C316	VCQYKU1HM823K	.082MFD	AC
C317, C318	VCCSPU1HL221K	220PF, 50V, ±10%, Ceramic	AB
C319, C320	VCQYKU1HM273K	.027MFD	AB
C401, C402	VCQYKU1HM102K	.001MFD	AB
C411, C412	VCCSPU1HL181K	180PF, 50V, ±10%, Ceramic	AA
C415, C416, C417, C418	VCKZPU1HF333P	.033MFD, 50V, +100 −0%, Ceramic	AB
C423, C424	VCCSPU1HL271K	270PF, 50V, ±10%, Ceramic	AB
C501	VCPOAT3AC473M	.047MFD, 1000V, ±20%, Oil	AD
C701	891575	.047MFD,630WV	—
C803, C804	VCCSPU1HL151K	150PF, 50V, ±10%, Ceramic	AA
C807, C808	VCKZPU1HB102K	.001MFD, 50V, ±10%, Ceramic	AB
C811, C812	VCCSPU1HL151K	150PF, 50V, ±10%, Ceramic	AA
C813, C814	VCCSPU1HL101K	100PF, 50V, ±10%, Ceramic	AA
C819, C820	VCQYKU1HM393K	.039MFD	AC
C823, C824	VCQYKU1HM473K	.047MFD	AC
C827, C828	VCQYKU1HM223K	.022MFD	AB
C829, C830	VCQYKU1HM153K	.015MFD	AB
C833, C834	VCCSPU1HL681K	680PF, 50V, ±10%, Ceramic	AA
C905	VCQYKU1HM223K	.022MFD	AB
C906	VCQYKU1HM823K	.082MFD	AC
C907	VCQYKU1HM822K	.0082MFD	AB
C910	VCQYKU1HM822K	.0082MFD	AB
C911	VCQYKU1HM822K	.0082MFD	AB
C912	VCKZPU1EF103Z	.01MFD, 25V, +80 −20%, Ceramic	AC
C915	VCKZPU1HF403Z	.04MFD, 50V, +80 −20%, Ceramic	AB

RESISTORS

(Unless otherwise specified resistors are 1/4W, ±5%, Carbon type.)

REF. NO.	PART NO.	DESCRIPTION	CODE
R201	VRD-SU2EY562J	5.6K ohm	AA
R202	VRD-ST2EE682J	6.8K ohm	AA
R203	VRD-ST2EE4R7J	4.7 ohm	AA
R204	VRD-ST2EE222J	2.2K ohm	AA
R205	VRD-ST2EE221J	220 ohm	AA
R206	VRD-SU2EY823J	82K ohm	AA
R207	VRD-ST2EE470J	47 ohm	AA
R208	VRD-ST2EE332J	3.3K ohm	AA
R209	VRD-SU2EY122J	1.2K ohm	AA
R210	VRD-ST2EE562J	5.6K ohm	AA
R211	VRD-ST2EE332J	3.3K ohm	AA
R212	VRD-SU2EY271J	270 ohm	AA
R213	VRD-ST2EE331J	330 ohm	AA
R214	VRD-ST2EE272J	2.7K ohm	AA
R215	VRD-ST2EE101J	100 ohm	AA
R216	VRD-ST2EE103J	10K ohm	AA
R217	VRD-ST2EE224J	220K ohm	AA
R218	VRD-ST2EE102J	1K ohm	AA
R219	VRD-ST2EE223J	22K ohm	AA
R220	VRD-SU2EY123J	12K ohm	AA
R221	VRD-ST2EE102J	1K ohm	AA
R222	VRD-ST2EE122J	1.2K ohm	AA
R223	VRD-ST2EE473J	47K ohm	AA
R224	VRD-SU2EY823J	82K ohm	AA
R225	VRD-ST2EE681J	680 ohm	AA
R226	VRD-SU2EY222J	2.2K ohm	AA
R227	VRD-ST2EE103J	10K ohm	AA
R228	VRD-ST2EE105J	1 Meg ohm	AA
R229	VRD-SU2EY474J	470K ohm	AA
R230	VRD-ST2EE103J	10K ohm	AA
R231, R232	VRD-ST2EE822J	8.2K ohm	AA
R233	VRD-ST2EE222J	2.2K ohm	AA
R234	VRD-ST2EE470J	47 ohm	AA
R236	VRD-ST2EE153J	15K ohm	AA
R237	VRD-ST2EE103J	10K ohm	AA
R238	VRD-SU2EY182J	1.8K ohm	AA
R239, R240	VRD-ST2EE332J	3.3K ohm	AA
R241	VRD-SU2EY105J	1 Meg ohm	AA
R242	VRD-ST2EE105J	1 Meg ohm	AA
R243	VRD-ST2EE682J	6.8K ohm	AA
R244	VRD-ST2EE471J	470 ohm	AA
R245	VRD-ST2EE821J	820 ohm	AA
R246	VRD-ST2EE4R7J	4.7 ohm	AA
R247	VRD-ST2EE183J	18K ohm	AA
R248	VRD-ST2EE4R7J	4.7 ohm	AA
R249	VRD-ST2EE332J	3.3K ohm	AA
R250	VRD-ST2EE101J	100 ohm	AA
R251	VRD-ST2EE224J	220K ohm	AA
R252, R253	VRD-ST2EE102J	1K ohm	AA
R254	VRD-ST2EE101J	100 ohm	AA
R255	VRD-SU2EY391J	390 ohm	AA
R261, R262	VRD-ST2EE223J	22K ohm	AA
R267	VRD-SU2EY333J	33K ohm	AA
R268	VRD-SU2EY332J	3.3K ohm	AA
R269	VRD-SU2EY122J	1.2K ohm	AA
R301, R302	VRD-ST2EE332J	3.3K ohm	AA
R303, R304	VRD-ST2EE155J	1.5 Meg ohm	AA
R305, R306	VRD-ST2EE823J	82K ohm	AA
R307, R308	VRD-ST2EE153J	15K ohm	AA
R309, R310	VRD-ST2EE561J	560 ohm	AA
R311, R312	VRD-ST2EE223J	22K ohm	AA
R313, R314	VRD-ST2EE474J	470K ohm	AA
R315, R316	VRD-ST2EE104J	100K ohm	AA
R317, R318	VRD-ST2EE153J	15K ohm	AA
R319, R320	VRD-ST2EE681J	680 ohm	AA
R321, R322	VRD-ST2EE563J	56K ohm	AA
R323, R324	VRD-ST2EE562J	5.6K ohm	AA
R325, R326	VRD-ST2EE392J	3.9K ohm	AA
R327, R328	VRD-ST2EE823J	82K ohm	AA
R329, R330	VRD-ST2EE682J	6.8K ohm	AA
R335, R336	VRD-ST2EE183J	18K ohm	AA
R337, R338	VRD-ST2EE332J	3.3K ohm	AA
R339	VRD-ST2EE681J	680 ohm	AA
R401, R402	VRD-ST2EE154J	150K ohm	AA
R403, R404	VRD-ST2EE823J	82K ohm	AA
R405, R406	VRD-ST2EE470J	47 ohm	AA
R407, R408	VRD-ST2EE471J	470 ohm	AA
R409, R410	VRD-ST2EE332J	3.3K ohm	AA
R411, R412	VRD-ST2EE473J	47K ohm	AA
R413, R414	VRD-ST2EE102J	1K ohm	AA
R415, R416	VRD-ST2EE152J	1.5K ohm	AA
R417, R418	RR-XZ0003AGZZ	10 ohm, 1/4W, Fusible	AB
R419, R420	VRD-ST2EE331J	330 ohm	AA
R421, R422	VRD-ST2EE331J	330 ohm	AA
R423, R424	VRD-ST2EE100J	10 ohm	AA
R425, R426, R427, R428	VRF-GU3ABR47K	.47 ohm, 1W, ±10%, Special	AB
R429	VRC-MT2HG102K	1K ohm, 1/2W, ±10%, Carbon	AA
R430	RR-XZ1007AFZZ	180 ohm, 1/2W, Fusible	AB
R431	VRS-PT3AB271K	270 ohm, 1W, ±10%, Oxide Film	AB
R433, R434	VRD-ST2EE151J	150 ohm	AA
R501, R502	VRC-MT2HG271J	270 ohm, 1/2W, ±5%, Carbon	AB
R601	VRD-ST2EY474J	470K ohm	AA
R602	VRD-ST2EY221J	220 ohm	AA
R801, R802	VRD-ST2EE105J	1 Meg ohm	AA
R803, R804	VRD-ST2EE222J	2.2K ohm	AA

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
R805, R806	VRD-ST2EE121J	120 ohm	AA
R807, R808	VRD-ST2EE104J	100K ohm	AA
R809, R810	VRD-ST2EE101J	100 ohm	AA
R811, R812	VRD-ST2EE104J	100K ohm	AA
R813, R814	VRD-ST2EE101J	100 ohm	AA
R815, R816	VRD-ST2EE104J	100K ohm	AA
R817, R818	VRD-ST2EE332J	3.3K ohm	AA
R819, R820	VRD-ST2EE221J	220 ohm	AA
R821, R822	VRD-ST2EE272J	2.7K ohm	AA
R823, R824	VRD-ST2EE334J	330K ohm	AA
R825, R826	VRD-ST2EE683J	68K ohm	AA
R827, R828	VRD-ST2EE104J	100K ohm	AA
R829, R830	VRD-ST2EE123J	12K ohm	AA
R831, R832	VRD-ST2EE684J	680K ohm	AA
R833, R834	VRD-ST2EE273J	27K ohm	AA
R835, R836	VRD-ST2EE124J	120K ohm	AA
R837, R838	VRD-ST2EE682J	6.8K ohm	AA
R839, R840	VRD-ST2EE222J	2.2K ohm	AA
R841, R842	VRD-ST2EE103J	10K ohm	AA
R843, R844	VRD-ST2EE153J	15K ohm	AA
R845, R846	VRD-ST2EE103J	10K ohm	AA
R847, R848	VRD-ST2EE822J	8.2K ohm	AA
R849, R850	VRD-ST2EE684J	680K ohm	AA
R851, R852	VRD-ST2EE472J	4.7K ohm	AA
R853, R854	VRD-ST2EE473J	47K ohm	AA
R855 R856	VRD-ST2EE222J	2.2K ohm	AA
R857, R858	VRD-ST2EE393J	39K ohm	AA
R901	VRD-ST2EE473J	47K ohm	AA
R902	VRD-ST2EE101J	100 ohm	AA
R903, R904	VRD-ST2EE103J	10K ohm	AA
R905	VRD-ST2EE222J	2.2K ohm	AA
R906	RR-XZ1005AFZZ	33 ohm, 1/4W, Fusible	AB
R907, R908	VRD-ST2EE330J	33 ohm	AA
R909, R910	VRD-ST2EE823J	82K ohm	AA
R913	VRD-ST2EE1R0J	1 ohm	AA
R914	VRD-ST2EE821J	820 ohm	AA
R915	VRD-ST2EE681J	680 ohm	AA

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION	CODE
J501	QJAKJ0001SGZZ	Jack, Headphones	AG
J502, J503	QJAKE0001SGZZ	Jack, Microphone	AG
SO501	QSOCJ0204SEZZ	Socket, FM Antenna Terminal	AD
SO502	QSOCJ0205SEZZ	Socket, AM Antenna Terminal	AD
SO503	QSOCD0501SEZZ	Socket, AUX	AD
SO504, SO505	QSOCD0201SEZZ	Socket, Speaker Output	AD
SO506	QSOCE0410AGZZ	Socket, Voltage Selector	AH
SW1 (A~G)	QSW-P0118AFZZ	Push Switch Assembly SW1-A: LW Switch SW1-B: MW Switch SW1-C: SW Switch SW1-D: FM Switch SW1-E: PHONO Switch SW1-F: TAPE Switch SW1-G: STEREO/MONO Switch	AT
SW2 (A, B)	QSW-P0117AFZZ	Push Switch Assembly SW2-A: AUX Switch SW2-B: RIF Switch	AH
SW3	QSW-P0119AFZZ	Switch Power	AL
SW4	QSW-S0153AFZZ	Switch, Pause	AG
SW5	QSW-S0163AFZZ	Switch, Record/Playback	AK
SW6	QSW-M0012AGZZ	Switch, Motor	AF
SW7	QSW-M0050AFZZ	Switch, Auto CrO_2	AG
SW8	QSW-F0101AFZZ	Switch, Muting	AE
F401	QFS-C322DAFNI	Fuse, 3.15AT	AE
F402	QFS-C321CAGNI	Fuse, 315mAT	AE
F403	QFS-C102AAGNI	Fuse, 1AT	AE
F501	QFS-C122CAGNI	Fuse, 1.25AT	AE
PL1, PL2, PL3	RLMPM0019AG01	Lamp, Dial Illumination, Meter Illumination	AE
CNP802	QCNCM0902AGZZ	Connecting Plug, 9-Pin	AE
CNP803	QCNCM0604SGZZ	Connecting Plug, 6-Pin	AD
CNS802	QCNCW0902AGZZ	Connecting Socket, 9-Pin	AC
CNS803	QCNCW0603SGZZ	Connecting Socket, 6-Pin	AB
CNS804	QPLGI0415AGZZ	Connecting Socket, Phono Motor	AD
ME501	RMTRE0053AFZZ	Meter, Tuning	AQ
	QACCV0001AGZZ	Power Supply Cord with Plug (KEMA)	AN
	QACCN0001AGZZ	Power Supply Cord with Plug (SEMKO)	AP
	LBSHC0004AGZZ	Bushing, KEMA/SEMKO Power Cord	AC
	QACCS9001SE00	Power Supply Cord (SEV)	AG
	QPLGA0205AGZZ	Plug, SEV Power Supply Cord	AK
	QACCZ0002TA0F	Power Supply Cord with Plug (USA type Plug)	AF
	LBSHC0007AFZZ	Bushing, SEV Power Cord	AB
	GCAB-5085AFSA	Cabinet, Grained Wood, with Hinge	BK
	GCAB-5085AFSB	Cabinet, Black, with Hinge	BK
	GCOVA1057AFSA	Dust Cover with Hinge	BF

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
	MHNG-0102AFFN	Hinge, Dust Cover	AE
	GCOVD9001AFZZ	Cover, Panel Slit	AC
	HDALP0326AFSA	Dial, Tuning	AN
	HDAP-0155AFSA	Backplate, Dial Tuning, Black	AF
	HPNLC1220AFSA	Panel, Volume/Tuning/Function Control, Assembly	AT
	HINDM1113AFSA	Indication Metal, Model No.	AA
	HPNLC1221AFSA	Panel, RIF/AUX Switch	AK
	HSSND0206AFSB	Pointer, Dial	AD
	JKNBP0068AFSA	Knob, Volume/Balance/Bass/Treble Control	AF
	JKNBM0224AFSB	Knob, Push Switch	AE
	JKNBN0297AFSA	Knob, Tuning	AE
	LANGR0405AFZZ	Bracket, Power P.W.B. and Power Transformer	AE
	LANGK0160AFZZ	Bracket, Tuning Meter	AE
	LANGK0161AFZZ	Bracket, Player	AD
	LANGQ0435AFZZ	Bracket, Jack	AC
	LANGQ0441AFZZ	Bracket, Rear Terminal	AD
	LANGQ0442AFZZ	Bracket, Power Switch	AD
	LANGR0373AFZZ	Bracket, Tuner	AE
	LANGT0502AFZZ	Bracket, Dial Cord Pulley	AB
	LANGT0505AFZZ	Dial Cord Pulley with Bracket	AD
	LBSHZ0001AF00	Holder, Lamp	AA
	LCHSM0212AFZZ	Chassis, Main	AP
	LHLDA1001SG00	Holder, Bar Antenna	AC
	LX-BZ0004SGFD	Thumbscrew, Player Board Retaining	AA
	LX-BZ0069AFFD	Screw, Cabinet Bottom Retaining	AB
	LX-BZ0211AFZZ	Shaft, Dial Cord Pulley	AA
	LX-BZ0213AFFD	Thumbscrew, Turntable Retaining	AA
	LX-NZ0109AFFN	Nut, Headphone Jack	AB
	LX-WZ5012AGZZ	Washer, LED	AA
	LSTPZ0050AFZZ	Stopper, Power Switch	AA
	LANGQ0443AFZZ	Bracket, Pause Switch	AB
	MLEVF0530AFZZ	Lever, Power Switch Connecting	AD
	MSPRT0001SGZZ	Spring, Dial Cord	AB
	NDRM-0001SGZZ	Drum, Dial Cord	AE
	NPLYB0001AFZZ	Pulley, Dial Cord	AB
	NPLYC0101AFFD	Guide Shaft, Dial Cord	AA
	NSFTD0161AFFW	Shaft, Dial Cord Drive	AF
	NSFTP0050AFZZ	Shaft Assembly, Power Switch	AD
	PCOVU7103AFZZ	Cover, Illumination Lamp	AB
	PCUSS0062AF00	Rubber, Shading	AA
	PFLT-0256AF00	Felt, Slide Volume	AA
	PRDAR0112AFFW	Heat Sink, Power Transistor	AH
	PSPAB0103AFFW	Collar, Voltage Selector Socket	AA
	PSPAD0001AFZZ	Spacer, Microphone Jack	AA
	PSPAN0002SEZZ	Spacer, Headphone Jack	AB
	PSPAZ0058AFZZ	Spacer, Turntable Retaining	AB
	PZETF0110AFZZ	Insulating Sheet, Jack	AA
	PSPAV0052AFZZ	Tube, LED, Leg	AA
	PSPAZ9002AGZZ	Insulator, Power Transistor	AA
	PSPAN0051AFZZ	Bushing, Power Transistor	AB
	QANTW0054AFZZ	FM Antenna, T-shape	AL
P501	QCNW-0076AGZZ	Cord, Player Connecting, Brown	AE
P502	QCNW-0077AGZZ	Cord, Player Connecting, Gray	AE
	QFSHC0003AGZZ	Holder, Fuse (F501)	AD
	QFSHD1001AGZZ	Holder, Fuse, Power Board	AB
	QLUGL0250AFZZ	Terminal Strip, 2-lug	AC
	QPWBF0561AFZZ	P.W. Board, Power Output	AK
	QPWBF0425AFZZ	P.W. Board, Tuner	AL
	QPWBF0426AFZZ	P.W. Board, Stereo Indicator	AE
	QPWBF0427AFZZ	P.W. Board, Controls	AK
	QPWBF0428AFZZ	P.W. Board, Tape Deck	AM
	QPWBF0429AFZZ	P.W. Board, AUX/RIF Switch	AC
	QPWBF0430AFZZ	P.W. Board, RECORD/CrO_2 Indicator	AB
	RTUNF0055AFZZ	FM Front-end Unit	BB
	CSPRT0001SG02	Dial Cord Assembly	–

PLAYER PARTS

REF. NO.	PART NO.	DESCRIPTION	CODE
201	850678	Pick-up Ass'y, with Cartridge	
201-A	CART-717	Cartridge with Stylus	
201-B	STY-717	Stylus	
202	891199	Arm Lifter Ass'y	AR
203	891707	Return Gear, Ass'y	AR
204	890620	Stud, Gear Stopper	AB
205	890619	Shaft, Eccentric	AB
206	890680	Rest Stand, Ass'y	AK
209	890618	Arm, Gear Stopper	AC
210	891195	Cut Lever, Ass'y	AK
212	890628	Spring, Gear Stopper	AB
215	813157	"E" Stopring, 8ϕ	AA
218	891219	Control Arm, Ass'y	AH
219	E-825183	Spring, Player Board	AB
222	890825	Stopper	
223	813153	"E" Stopring 4ϕ	
224	890684	Switch Lever, Ass'y	AE
225	E-825182	Spring, Player Board	AB
226	890432	Cushion, Player Board Spring	
227	891566	Weight	AW
230	891849	Terminal Strip, 4-lugs	AC
231	890765	Washer, Operation Arm	
232	890709-3	Operation Arm, Ass'y	AH
233	870038	Base, Operation Arm	AH
234	890767	Bracket, Seesaw Arm	AH
235	830151	Seesaw Arm, Ass'y	AG
236	890322-2	Shaft, Switch Arm	AD
237	890995	Shaft, Eccentric	AG
238	892331	Spring, Switch Arm	
240 (SW701)	890334	Micro Switch	AH
241	890994	Switch Arm, Ass'y	AH
243	813152	"E" Stopring, 3ϕ	
244	891511	Shaft, Cut Lever	AE
245	890792	Cut Lever Arm	AE
246	890364-1	Spring, Cut Lever	AB
247	703549	Turntable	
250	890675	Shaft, EP Adaptor	AC
253	891196	Speed Selector Lever	AF
254	E-830310	Bearing, Turntable, Ass'y	
256	891190	Kick Lever	AF
257	891191	Spring, Kick Lever	
258	890322-1	Shaft, Kick Lever	AD

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
259	E-821121	Pointer, Speed Selector Lever	
260	850710-2	Player Board	
261	630923 (MOTOR-712)	Motor Assembly, with Motor Pulley and Idler	
261-A	701354 (PULLEY-704)	Pulley, Motor, 50Hz	
	NPLYP0052AFH6	Pulley, Motor, 60Hz	AK
261-B	I-704	Idler	
263	E-825184	Spring, Player Board	
264	E-825186	Spring, Player Board	AB
268/C701	891575	Capacitor, .047MFD, 630WV	
271 (CNS-6)	893584	Phono Motor Connector	
272	890735-1	Insulator, Micro Switch	AB
274	890876	EP Adaptor	AC
275	870365	Turntable Sheet Ass'y	
280	893492	Bracket, 2-pin Jack	
281	E-313110	Lug	
282/SO701	893493	2-Pin Jack	
283	890755	Wire Holder	
286	893808	Insulator, Phono Motor Connector, Plastic Sheet	

TAPE DECK MECHANICAL PARTS

REF. NO.	PART NO.	DESCRIPTION	CODE
001	LCHSM0230AFZZ	Chassis, Mechanism	AN
002	————	Rubber, Push Button Cushion, Part of 001	–
003	LCHSS0092AGZZ	Sub-Chassis (40A102-A)	AF
004	DROLP0020AGZZ	Pressure Roller Assembly (40A103)	AG
005	MSPRT0264AGFJ	Spring, Pressure Roller	AA
006	NBALS0004AGFJ	Steel Ball, 2.5ϕ (40A105)	AA
007	RHEDH0051AFZZ	Head, Record/Playback	AW
008	RHEDA0050AFZZ	Head, Erase	AN
009	MSPRC0031AGMN	Spring, Head Azimuth (40A107)	AA
010	MLEVP0033AGZZ	Lever, Tape End Sensing (40A108)	AC
011	NDAIR0100AFSA	Turntable, Take-up	AG
012	NDAIR0060AGSA	Turntable, Supply	AD
013	DROLR0014AGZZ	Idler, Rewind (40A111-A)	AH
014	NROLF0050AFZZ	Roller, Fast Forward	AK
015	MLEVF0441AGFD	Lever, Brake Connecting	AC
016	MLEVF0448AGFD	Lever, Recording	AC
017	LANGF0261AGZZ	Block, Guide (40A115)	AE
018	MLEVF0440AGZZ	Brake Lever with Rubber	AC
019	LANGF0260AGZZ	Block, Record Safety Lever	AD
020	MLEVP0032AGZZ	Lever, Record Safety (40A118-A)	AB
021	MSPRD0088AGFJ	Spring, Record Safety Lever (40A119-B)	AB
022	NBRGP0012AGZZ	Bearing, Capstan Shaft (40A120-A)	AH
023	MLEVF0443AGZZ	Lever, Auto Stop	AC
024	MLEVP0034AGZZ	Lever, Auto Stop (40A122)	AB
025	MSPRD0089AGFJ	Spring, Auto Stop Lever (40A123-A)	AB
026	MSPRT0256AGFJ	Spring, Auto Stop Lever Return (40A124)	AA
027	PGIDS0006AGFW	Spacer, Fast Forward Lever (40A125)	AB
028	MLEVF0439AGFD	Lever, Fast Forward	AB
029	MSPRT0262AGFJ	Spring, Fast Forward Roller (40A127-B)	AC
030	MSPRT0263AGFJ	Spring, Fast Forward Roller (40A128)	AA
031	MLEVF0546AFFD	Lever, Over Stroke	AB
032	NBALS0010AGFJ	Steel Ball, 3/16"ϕ (40A130)	AA
033	MLEVF0446AGFD	Plate, Over Stroke (40A133)	AB
034	MSPRP0093AGFW	Retainer, Sub-Chassis (40A132-A)	AB
035	MSPRT0329AFFJ	Spring, Over Stroke	AA
036	MSPRT0252AGFJ	Spring, Sub-Chassis Return, Eject Lever (40A134)	AA
037	MLEVP0031AGZZ	Guide, Take-up Idler (40A135)	AE
038	MSPRT0257AGFJ	Spring, Take-up Idler (40A136)	AA
039	NFLYC0051AFZZ	Flywheel	AK
040	NPLYR0050AFZZ	Pulley, Take-up	AD
041	NBLTH0005AGZZ	Belt, Drive	AE
042	LANGF0263AGZZ	Bracket, Flywheel (40A140)	AC
043	LX-BZ0108AGZZ	Screw, Flywheel Thrust Adjust (40A141)	AB
044	NIDR-0021AGZZ	Idler, Take-up (40A142-A)	AD
045	LANGT0492AFFW	Bracket, Motor	AC
046	RMOTM0053AFZZ	Motor with Pulley	AW
047	MSPRT0258AGFJ	Spring, Rewind Button	AA
048	MSPRT0266AGFJ	Spring, Record Button	AA
050	JKNBR0100AFSB	Push Button	AH
051	NSFTT0070AGFD	Shaft, Push Button	AE
052	LSTPF0002AGFD	Retainer, Push Button Shaft (40A150)	AA
053	MSPRT0254AGFJ	Spring, Stop/Eject and FF Button Returning	AA
054	MSPRT0253AGFJ	Spring, Record Connecting Lever (40A152)	AA
055	MLEVP0038AG00	Lever, Eject (40A153)	AC
056	MLEVF0445AGFN	Lock, Push Buttons	AC
057	MSPRT0259AGFJ	Spring, Push Button Lock (40A155)	AA
058	MSPRP0094AGFW	Spring, Cassette Retaining	AB
059	MSPRT0189AGFJ	Spring, Rewind Idler	AA
060	NBALS0006AGFJ	Steel Ball, 2ϕ (40A159)	AA
061	LHLDW3024AGFD	Wire Holder (36A0057)	AA
062	PCOVW9057AG00	Insulator, Main Switch and CrO_2 Switch	AA
063	LANGT0494AFFW	Bracket, Main and Muting Switch	AE
064	LANGQ0440AFZZ	Bracket, CrO_2 Switch	AD
065	MLEVP0051AFZZ	Lever, CrO_2 Tape Detection	AC
067	LANGT0493AFFW	Bracket, Tape Counter	AB
068	LBSHS0001AG00	Rubber, Motor Cushion	AA
069	MLEVF0534AFFW	Plate Spring, R/P Switch	AC
070	PSDAA0001AGFJ	Sleeve, Motor Cushion Rubber	AB
071	NBLTM0029AG00	Belt, Tape Counter	AE
072	KCOUB0031AGZZ	Tape Counter	AN
073	QLUGL0302SEZZ	Terminal Strip, 3-lug	AA

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
074	PCOVW3102AFZZ	Insulator, Auto CrO_2 Switch, Fiber	–
101	GCABC0181AGSA	Holder, Cassette	AG
102	HDECB0018AGS	Mirror, Cassette Compartment	AA
103	HINDM1114AFSA	Indication Metal, Tape Deck Control	AG
104	HPNLC1207AFSB	Panel, Tape Deck	AP
105	LANGA0029AGZZ	Retainer, Cassette Holder	AA
106	LANGK0162AFZZ	Bracket, Tape Deck Panel	AA
107	LANGK0163AFZZ	Bracket, Tape Deck Panel	AB
108	MLEVF0400AGZZ	Lever, Lock Connecting	AB
109	MLEVP0025AG00	Lever, Lock	AB
110	MSPRP0089AGFW	Plate Spring, Cassette Holder	AB
111	MSPRT0238AGFJ	Spring, Lock Connecting Lever	AA
112	MSPRT0242AGFJ	Spring, Cassette Holder	AB
114	PGUMM0055AG00	Cushion, Rubber, Cassette Holder	AA
116	PCUSG0058AF00	Rubber, Tape Deck Panel	AB

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